YACHTING

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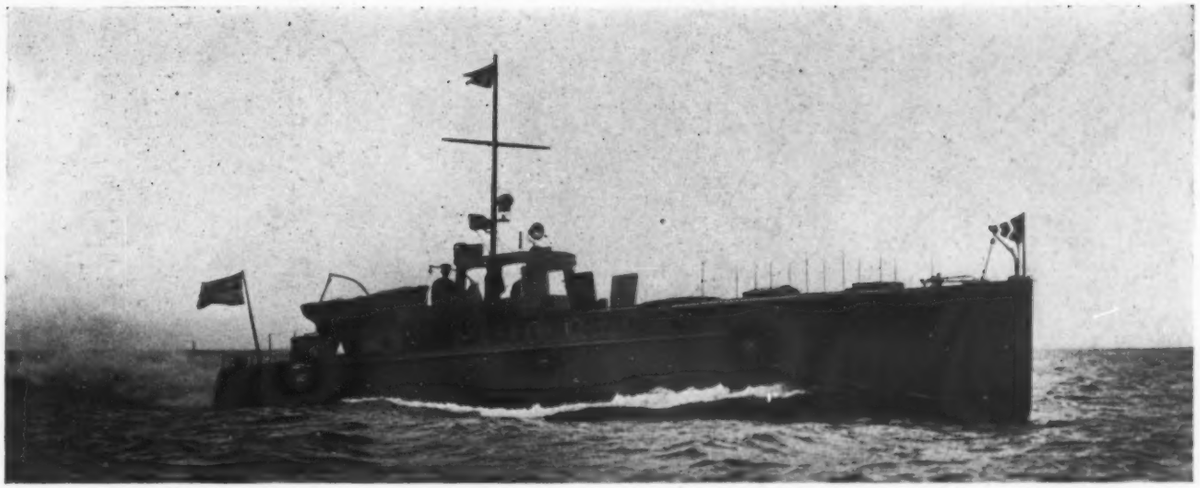


MYSTERY II WAS BUILT AT THE LUDERS MARINE CONSTRUCTION COMPANY FOR MR. RALPH PULITZER OF NEW YORK. SHE IS POWERED WITH A PAIR OF EIGHT-CYLINDER 350 H. P. DUESENBERG MOTORS AND HAS A SPEED OF TWENTY-FIVE MILES AN HOUR

Mystery II, A High Speed Scout Cruiser

An Up-to-Date 71-Footer of an Especially Interesting Type

Photos Copyright By Brown & Dawson

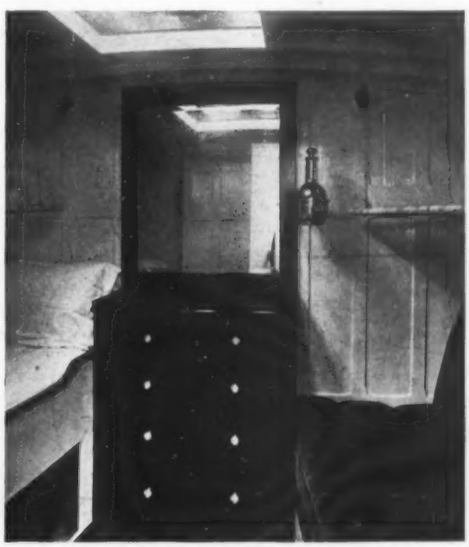
ONE of the most interesting power boats of the year is Mystery II, designed and built at the plant of the Luders Marine Construction Company, Stamford, Conn., for Mr. Ralph Pulitzer, owner of the New York World.

The craft is 71 ft. long and 13 ft. breadth of beam and has a draft of 3 ft. 9 in. She is therefore one of the fastest express cruisers built this year. The size and accommodations below decks are especially large for a boat of this type and the internal arrangement is well laid out.

There is room in the fo'castle for four men, it being provided with pipe berths, and plenty of room for the storage of the crew's dunnage. The owner's stateroom is abaft this and is fitted with built-in berths, clothes closet, dresser and has an adjoining bathroom. There is a vestibule adjoining which opens aft into two single staterooms, both of them being especially well appointed.

The engine room is splendidly equipped, and is especially large, the designers having made every provision for the proper implacement of the twin-motor plant. Special attention has been given the ventilation in this room—something that is sadly lacking in a great many boats of this type. Two eight-cylinder 280–350 H.P. patrol model Duesenberg motors operating at 1,350 revolutions per minute, and completely equipped with electric lighting and starting plants, generate the power that propels Mystery II at the remarkable speed of twenty-five miles an hour. The capacity of the fuel tanks is 1,000 gallons, which allows a large cruising radius, and they are carried in the after end of the motor room.

There is a wireless room aboard, in which is installed a long distance Cutting & Washington wireless set, which by the way is a necessity aboard a boat of this type. Opposite the wireless room is a galley fitted with all the appliances required to supply the owner's and crew's tables.



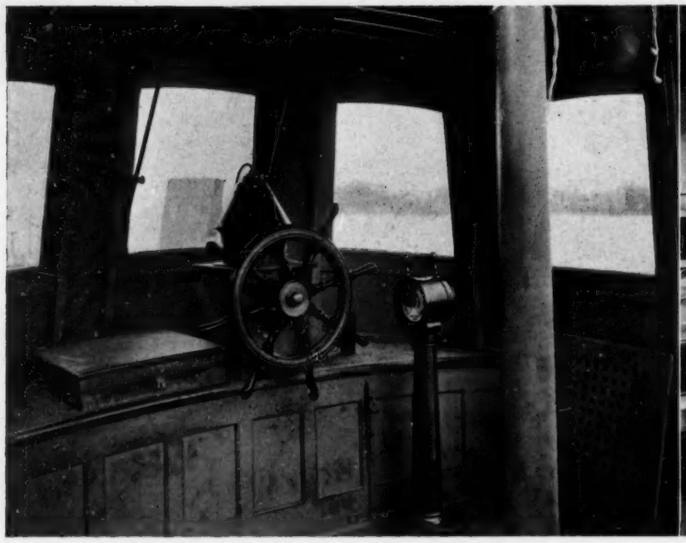
THE BOAT IS LAID OUT WELL AND HAS A NUMBER OF STATE ROOMS FINISHED IN WHITE AND MAHOGANY

The afterpart of the boat is given over to a main dining saloon which is beautifully decorated and expensively furnished. Two folding berths are provided here, making room for an unexpected guest.

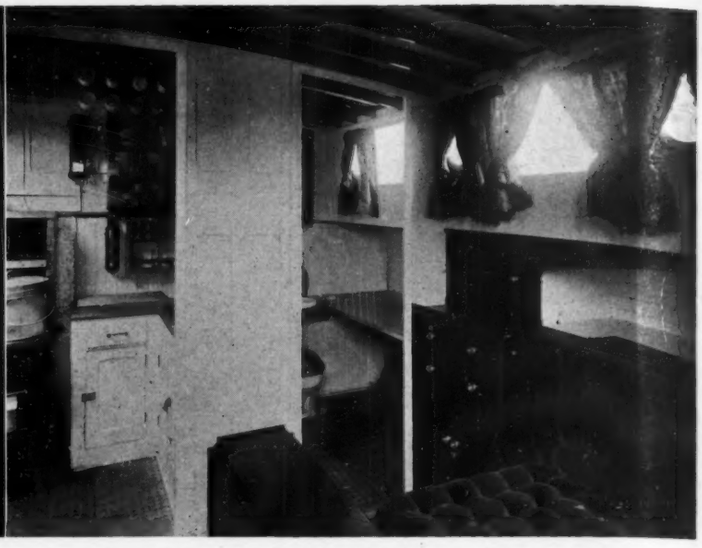
There is a big, roomy cockpit abaft the after house which makes a delightful lounging place for those aboard. A substantial standing top with side curtains might be provided over this cockpit, thus making it a mighty comfortable retreat even in stormy weather. The bridge deck and pilot house are aft of amidships and it is from here that the entire craft is controlled. In addition to lever controls to the motors the boat is equipped with ship's telegraphs for an engineer is carried under ordinary circumstances.

Two powerful searchlights are carried, one of which is mounted on the main mast, it having a comfortable lookout station fastened to the mast abaft it. It is interesting to note that Mr. Pulitzer has offered Mystery II to the Government for special patrol service to operate out of the third naval district.

The construction of the craft is of the usual Luder's planning, the keel and frame being of white oak especially selected. The hull is well bulkheaded which with numerous longitudinal stringers and seamed battened planking, gives unusual strength. The



THE PILOT HOUSE IS UNIQUE IN MANY WAYS, THE WINDOWS BEING ESPECIALLY INTERESTING



THE BOAT IS WELL EQUIPPED FOR CRUISING AND HAS A LARGE AND CONVENIENTLY ARRANGED GALLEY

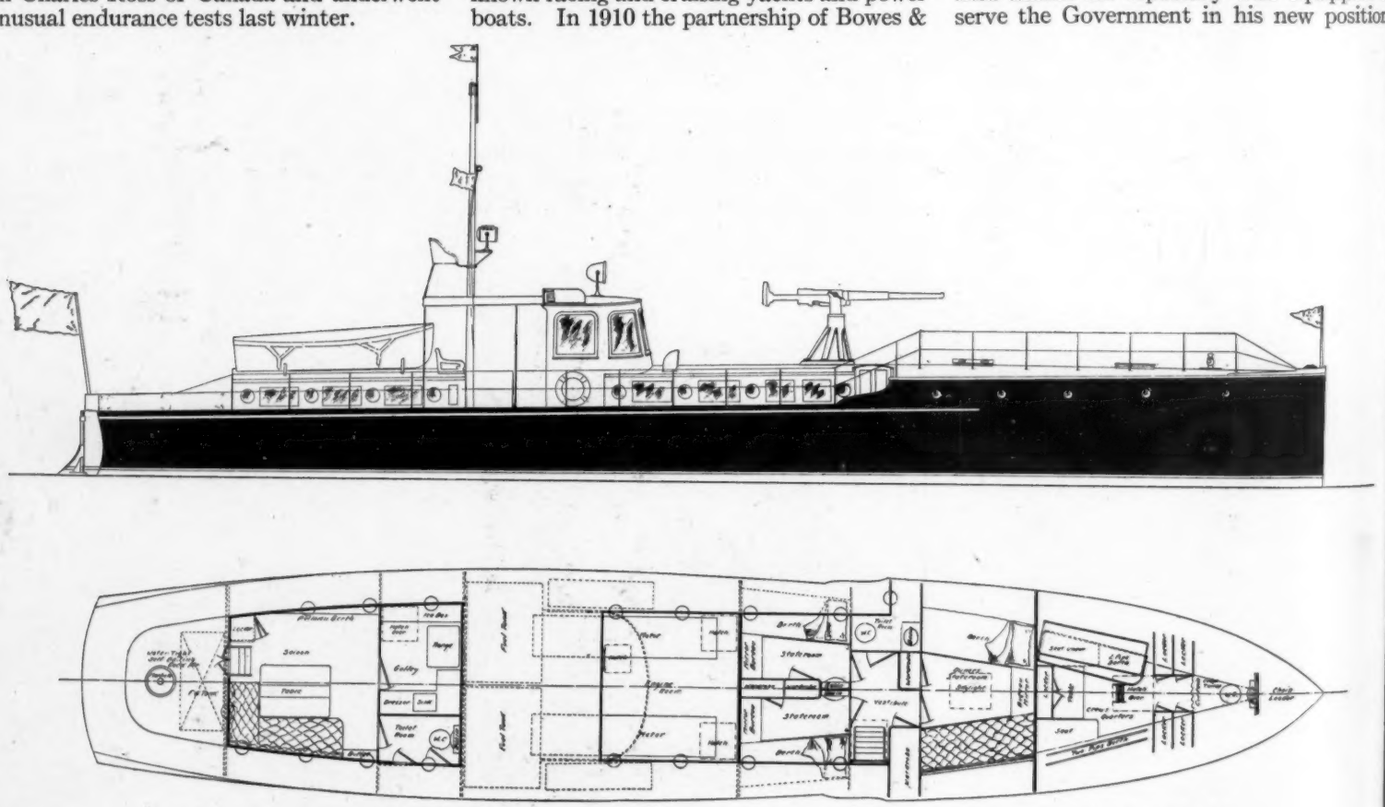
joiner work outside is of mahogany and wonderfully finished. The decks are of spruce, canvas covered and especially strengthened to take the recoil of a rapid firing gun. The fastenings throughout the craft are of either brass or copper excepting those in the keel which are of galvanized iron. All the deck fittings are of bronze and the hand railings, galvanized iron.

The Luders Marine Construction Company have built a number of craft of this type. Perhaps one of the most interesting of these is Pattina. She was built for Sir Charles Ross of Canada and underwent unusual endurance tests last winter.

C. D. Mower Enters Government Service

Mr. Charles D. Mower has accepted an appointment by the Navy Department, as Inspector of Naval Construction, detailed to the fourth Naval District, in connection with the construction and repair of vessels of the Squadron Patrol Fleet.

Mr. Mower is well known in yachting circles, as after being connected with the Rudder from 1899 to 1905, he opened an office in New York and designed many well known racing and cruising yachts and power boats. In 1910 the partnership of Bowes & Mower was formed and Mr. Mower's business moved to Philadelphia. Express cruisers have occupied a prominent place in the works of Bowes & Mower, the firm having designed such well known boats as Zenith, Ameera, Lenore, Akbar, Enchantress I, enchantress II, Lady Baltimore, Dream, Daneva, Gossoon, Wilfreda, Elise, Danna, and many others. Of the commercial vessels, the best known is the three masted, auxiliary schooner, George B. Cluett, designed for the Grenfell Labrador Mission. Mr. Mower's long experience in the Yachting field makes his especially well equipped to serve the Government in his new position.



THE CABIN PLAN OF MYSTERY II IS ESPECIALLY INTERESTING TO THE MAN WHO WANTS SPEED AND COMFORT COMBINED

A Second Mate's Yarn

A Deep Water Voyage Around the Cape of Good Hope to South East Africa in the Bark Lillian. Life on an American Windjammer from the Viewpoint of the Quarterdeck

Chapter III Continued

By WM. P. BRADLEY

AFTER finally getting clear of the Brazilian coast in Lat. 9° S. and Long. 34° W. we had a long spell of fine weather for three weeks while we ran through the South East Trades, which we carried to Lat. 32° South. We were braced up sharp most of the time and worked across the South Atlantic to Lat. 12° W. with only an occasional squall to bother us. In one of these, however, which came up at night with no warning except distant lightning, I was caught napping and did not start to get in the light sails soon enough. Lightning did not signify much in those latitudes except rain squalls with but little wind; but this one moved very quickly and owing to the darkness I could not see it coming. It was only when I saw a streak of white on the water to windward that I realized there was wind and then I bawled to my watch to let go fore and main royal halyards by the run and clew up, while I jumped to the gaff topsail halyards and clewline. Three men couldn't do much, however, and the wind struck while the sails were yet up, splitting the gaff topsail and fore royal.

Everything was slatting and banging at a great rate as we let go the halyards by the run and this brought the mate on deck, just as I was chasing my watch aloft to get the light canvas furled. It blew only for about fifteen minutes but the night was squally and we left the kites stowed until daylight.

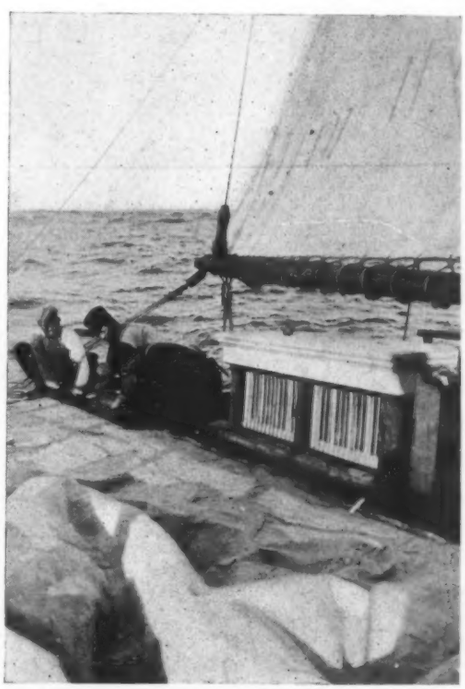
This fine weather was great for getting our work done and after my scrap with the crew we kept the men busy on deck having all hands up for the afternoon watch. Stages were rigged over the side and graving pieces put in the rail where the rot had started. Occasionally a sea would slop up the side wetting the men through as they worked but the water was warm, the sun hot, and the few clothes the men wore would dry quickly. Besides, a little salt water never hurt any sailorman. The mate rolled out the windlass one day, taking it all apart, and the men clipped the iron rust from it, painted it and put it together again before night—a good day's work.

When we had been out two months we began to serve the men lime juice every day as a precaution against scurvy, for we had been living on salt food since the week we left the coast, potatoes being the only vegetable we had left except dried beans. It was my job to measure it out, muster the hands aft at eight bells before they went to dinner for their "tot," which they took much in the manner those more fortunate ones ashore take their before-dinner cocktail. The menu was getting down to deep-sea plainness, but there was plenty of it such as it was, and was better at this stage of the voyage than on the homeward passage. Charlie Welch was a good cook and the men had no cause to complain on that score. After some of the tucker I had eaten in the foc'sles of other ships I knew just how well the men were off on the Lillian, in spite of the daily salt horse, beans, hard bread, with an occasional batch of fresh for a relish, and tea.

They did the usual growling, however, and there was more or less friction between the quarter deck and the gang forward, merely because we had an eye to getting the necessary work done and the men resented doing anything out of the regular routine.

It was on February 4th, in Lat. 32° South that we got our first heavy weather since December 20th, when we were well up in the North Atlantic.

We had gotten the sun in the afternoon for a time sight through a greasy sky that looked bad, and as the glass was falling we took in the light sails and made things fast about decks. The wind was ahead, about S. S. E., and we were headed off on the starboard tack to leeward of our course, so the Old Man hung on to his canvas as long as he could. At supper we felt the old Lillian lift unusually high and then drop into space as if there was nothing under her, followed by a crash of water on deck. The forward companionway was open and before the mate could spring to close it a solid wall of water swept down it, flooding everything below. So, instead of eating, the mate and steward went to bailing water off the floor. The captain's room was the only one not flooded.



THE CREW WERE KEPT BUSY PART OF THE TIME AT THE TASK OF MAKING NEW SAILS

That was enough for the Old Man, and it was stow the upper topsails and courses before night shut in. I was first up on the main yard and took the weather arm with the four men on the yard and we got the big sail smothered before we tackled the topsails, but with our small crew it was 7.30 before everything was snug and I could get below to a cold supper.

The blow did not amount to much and petered out the next forenoon when the wind hauled to South and we made sail again. The sea was heavy, however, with a long swinging swell that was the forerunner of the Cape sea, and promised to last until we arrived at Port Natal. The Southern Seas below latitude 33° are usually very restless. The Lillian rolled and pitched and was most uncomfortable, making it difficult to stay in your bunk or sleep. The only way was to pack the bedclothes around you to give you something soft to fetch up against when she jerked down into a hollow. In the galley, Charlie Welch only managed to keep things on the range by tying pots and pans down to the railing around the edge. He certainly earned his $35 per month during the next three weeks in our passage round the Cape.

We began to look ahead and to speculate upon our arrival at Port Natal about this time, but as we were not yet past Good Hope the latter was a rather risky thing to do. The continuous south and southeast winds had set us back in out latitude some 90 miles, and after getting 9° to 32° S. on February 4th we were back to 30° 30″ S. by our Meridian Altitude sight on February 7th. Aft, we were figuring on from three to four weeks more, but forward when the news from aft filtered in some inexplicable manner, I overheard their talking of "at least another month on the bloody old hooker."

The air began to grow cooler as we got South and the nights were chilly so that we hauled out heavy underwear again, or rather, put on the only weight we had, for forward and aft we wore nothing over our bodies in the tropics but shirts and trousers. It was the fall of the year in the Southern Hemisphere, and it did not get very cold, the temperature being about 60° on deck in the daytime. It was about like our September weather on the North Atlantic coast, and except for the high seas and the frequent gales not uncomfortable at all.

Cape of Good Hope is not the most southerly point of the African continent

as many believe but is a bold promontory South of Cape Town. Cape Agulhas in latitude 35° S. longitude 20° E. is the real turning point, where one can "let her go" to the east and northeast for the run through the Indian Ocean. We crossed from W. to E. longitude on the night of February 13th in

THE SECOND MATE AND STEWARD ON ONE OF THE RARE TIMES WHEN THEY HAD LITTLE TO DO

a moderate gale from the S. W. in which we knocked off over three degrees of longitude in 24 hours. From then to Cape Agulhas we had a succession of gales from S. W. to N. W. and we squared away before them under shortened sail and made good time, standing well to the southward of the Cape to latitude 37° 30″. Here heavy easterly and S. E. winds forced us still further south to latitude 38° 30″ or some 210 miles south of the Cape.

We had seen a number of albatross flying around us for some time since we reached southern latitudes but did not succeed in catching one until we were well south of the Cape, though we had lines and hooks out to catch them. One day, there were several following the ship and the passenger and I rigged up four hooks on a heavy line with wire, baited the hooks and soon saw an albatross swoop down and swallow the bait. We pulled him in and soon had the monster bird flapping about on deck. He seemed all wings and when we measured him carefully, we found he was over 9 feet from tip to tip. Each wing measured four feet six inches from body to tip. After examining him carefully and extricating the hook we let him go by putting him overboard on to the sea again, and soon saw him fly off and join his mates.

One morning, just after I had turned in at 4 a. m., wet and tired from a hard mid-watch, with a nor'west gale blowing, I was dropping off to sleep when the mate shoved my door back with a bang.

"On deck, Mr. Bradley, and give me a hand with the fore topsail yard."

Knowing that something was wrong, I pulled my boots on again and hurried on deck to find the gale howling and the gang on the fore-lower topsail yard furling the sail, while the yard was banging to and fro. One of the iron trusses on the yard had broken off short and the other was bent badly. So we fished the yard, took out the bent rod, and sent it down on deck. After two hours' work we got it straightened and then it was breakfast time, so we could not get it up and in place until later. It took us all the forenoon, working all hands, to get it fixed properly, and it was not until after dinner that we got our fish tackle unrove and sent down on deck. Working aloft at that kind of a task with a Cape Agulhas sea running under you is something of a job, believe me. It needed one hand and two legs to hang on with and the remaining hand wasn't half enough to fit and set up the truss when each jerk of the ship threatened to tear you loose from the yard and shoot you overboard. This job caused a lot of grumbling among the men, one watch, mine, being on deck over twelve hours steady; but neither the mate or I noticed what they said when we sent the starboard watch below after dinner. Griffith and John, the Swede, were particularly outspoken and ugly, but as none of the remarks were addressed to the mate and me, but rather *at* us in a general way, we let it pass, not desiring a muss so near the end of the voyage.

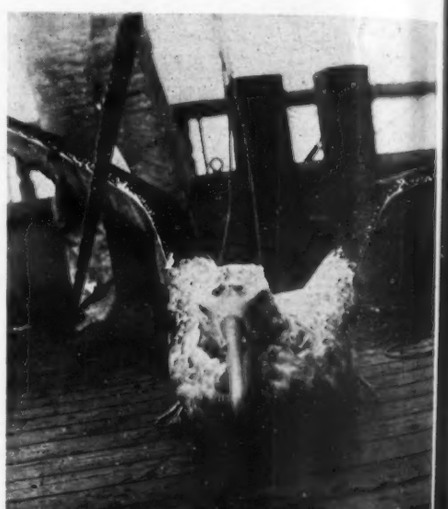
A few days afterwards our noon sight put us only 100 miles from Port Natal. "We'll raise the light by midnight if this wind holds," said the mate to me, "and be at anchor by daylight. Then that bunch of sea lawyers for'ard'll find out what a soft time they've been havin' when they start to work cargo."

The afternoon was spent getting the fish tackle rove off, anchors clear, chain overhauled and everything ready for letting go. In spite of the prospect of making port and this being the last night of watch the men were still sullen and grumbling and had to be driven to everything. It was a clear case of sulks, but we overlooked it all we could, as long as they got the work done.

After the captain, mate and passenger had finished supper that night I went below for mine about six o'clock and had hardly begun when I heard a commotion on deck, with the sound of angry voices and curses. I sprang up the companionway and looking forward saw the mate in the center of a free fight with three of the men with one of whom he was clinched.

One glance showed my watch bursting out of the foc's'le door to get into the muss each grabbing a belaying pin from the rail as he came by. Of course, I sailed in to the mate's assistance as it was going hard with him. The mate had the Frenchman around the waist with his arms pinioned at his side (I could see a bare sheath knife in the Frenchman's hand) but hadn't gotten him down, while two of his shipmates were hanging on to the mate's legs, trying to lift him off the deck.

"Overboard with him; now—all together," I heard them say as I got close, and I realized at once their purpose. I had grabbed an iron belaying pin as I went and brought it down on the arms of the two men trying to get the mate overboard, breaking their hold, but before I could do



WE CAUGHT AN ALBATROSS THAT MEASURED 9 FEET FROM WING TIP TO WING TIP

more I was borne down by a man springing on my back. I ducked quickly, swinging the sailor over my head and loosening his hold, and as I straightened up I received a blow in the side of the head from Griffith. It was then a free fight with the mate and I the center of a struggling group which we tried to drive forward. Every minute we expected the Captain to come to our aid with a gun, but beyond calling to the men to turn to and threatening to put them in irons, which the passenger had brought on deck, he made no move to help us.

We got help from an unexpected quarter however, for the cook Charlie Welch, seeing the turn affairs were taking grabbed a hatchet and came on deck, attacking the crew in the rear. The diversion saved us for the men gave ground and we got them started forward. All around the forward house we fought until the mate got the Frenchman down and I got Griffith on the deck, while the cook kept the others back with his hatchet. Griffith fixed his teeth in my cheek as we rolled over on deck and drew blood in four or five places until I choked him into insensibility.

The men, realizing by this time that they were bested, ran into the forecastle and shut the door, leaving the Frenchman and Griffith to their fate. Seeing the jig was up the Frenchman begged for mercy, Griffith still lying limp on deck. Releasing the Frenchman the mate ordered him to the pump, and he went, meekly enough, and started to work the heavy brake alone

while I pulled Griffith to his feet and shoved him into the carpenter's shop.

Then the Captain, who had done nothing to back us up, said, in a whining tone:

"Too bad, too bad, Mr. Morton, to start trouble just as we are reaching port. It'll be very inconvenient for us and may cost us something to get out of it." That was the Old Man all over—always thinking of what the cost would be, even while we were fighting for our lives and his ship. He blustered over putting the Frenchman and Griffith in irons and turning them over to the authorities at Port Natal, but in the end did nothing and told us to turn them to with their watches the same as usual, which we did, the mate and I standing watch the entire night together, each with a gun in his pocket in case the trouble started again by reason of the Captain's leniency.

It appears the trouble started when the watch was changed at six o'clock. The mate was aloft in the main top inspecting some work and the Frenchman went to the pump to pump her as usual. The rest of the watch being aloft he waited for them to come down and the mate, from the main top, ordered him to begin pumping. He refused, and the mate came down on deck followed by the rest of his watch, who went to the pump brake. Intent on having his order to the Frenchman obeyed, he repeated the command and told the rest of his watch to go forward. They, in turn, refused, and the mate started to run them forward when the Frenchman drew his knife and jumped on him, which was the status of affairs when I got on deck.

It is not often that the men start trouble so close to port and we were particularly sorry to have it happen. The crew were clearly to blame, however, and had probably been cooking up the trouble for some days, judging from their surly manner, figuring that we wouldn't do much to them being so close to port. However, they got the worst of it and I am sure Charlie Welch would have let them have the hatchet if any of them had seemed to get the advantage of either the mate or me.

As the mate and I stumped the deck together that night, with the corners of our eyes kept on the men forward, we were cheered at 11.45 by the look-out reporting a light three points on the port bow which we made to be Port Natal Light. The wind let go, however, after midnight and at daylight we were still some distance from the anchorage. After breakfast it was take in light sails, starting with royals, to'gallants'l and staysails, and all hands were kept on the jump until we rounded to, backed our main yards and let go the hook in the outer roadstead at 8.30 A. M. just as a heavy rain squall swept over us blotting out the land and the white fringe of surf at the sea's edge. It was March 2nd and it had been just 81 days since our hook had left the mud of City Island. In that time I had passed through the metamorphosis from seaman to officer and had come out with the quarter-deck viewpoint, ready to assume my responsibilities and demanding in return the unqualified obedience and attention to duty of those forward if we aft were to be held responsible for the safety of ship and crew.

(To be continued)

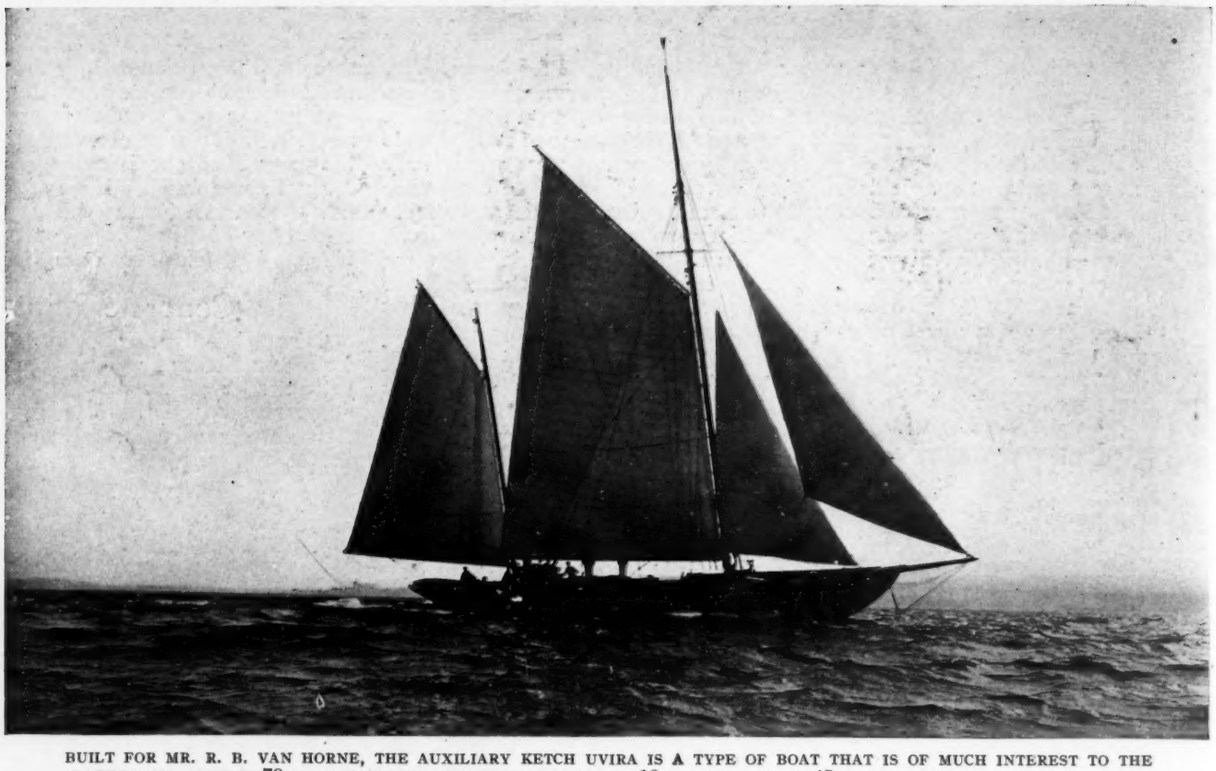
Concrete Ships

Our merchant marine has been neglected for so many years that it has become a thing little thought of by the man on the street and it has taken the depredations of the German submarines to awaken him to the value of shipping of all kinds. We have always depended upon foreign bottoms to carry our commerce and for this reason European ship yards and foreign built vessels have advanced a hundred fold while ours have been standing still.

If we wish to support our allies in the great war, the support to be most effective needs to be in the creation of ships, the more of them the better. In addition to the stream of food and war supplies that are being ferried across the Atlantic Ocean, we have now the problem before us of transporting men, perhaps as many as a million of them, with all the equipment necessary for their comfort and efficiency on the battle fields of France.

(Continued on page 144)

THE CREW OF THE LILLIAN WERE A TYPICAL CROWD OF DEEP SEA SAILORMEN



BUILT FOR MR. R. B. VAN HORNE, THE AUXILIARY KETCH UVIRA IS A TYPE OF BOAT THAT IS OF MUCH INTEREST TO THE YACHTSMAN. SHE IS 79 FT. LONG OVER ALL WITH A BEAM OF 16 FT. AND HAS A 45 H. P. STERLING MOTOR INSTALLED

Uvira, a 55-ft. Waterline Auxiliary Ketch

Built in the summer and fall of 1916, from designs by Swasey, Raymond & Page, for Mr. R. B. Van Horne, the auxiliary ketch Uvira, is a type of craft that is of much interest to yachtsmen. Her overall length is 79 feet, her waterline length 55 feet, extreme beam 16 feet 2 inches, and draft 9 feet.

Uvira has exceedingly large and convenient accommodations. The fo'c sle is fitted with four pipe berths, and, in addition, clothes lockers and an adjoining toilet room. Abaft this is a combined galley and engine room; a compartment that is fitted with every modern convenience including a large refrigerator, Shipmate stove, sink, dish racks, bins for storing provisions; in fact, everything necessary to form an efficient culinary department.

The power plant consists of a Model F 45 H. P. Sterling motor, which drives the craft at a speed of 8 knots. Her gasolene tanks have a capacity of 400 gallons, which is sufficient to allow a large cruising radius under power without frequent stops for replenishing the supply. With a reliable motor aboard and the propeller and shafting installed so as to affect as little as possible the sailing qualities of the boat an owner is assured of reaching port on schedule which in these busy times has become a necessity. The room taken up by the motor and its fuel tanks is not large and usually in a boat of this kind the motor is boxed in, its top being used as a table.

The captain's state room is located on the port side of the galley and is well fitted with built in berths, clothes dresser and lockers. Abaft this is the main saloon; here there are two extension berths, two transom berths with drawers below and shelves above sideboard and swinging dining room table. The finish and furniture of the main cabin is mahogany, which creates an especially handsome interior. Abaft the main saloon on the starboard side there is a private stateroom and on the port side the owner's bath and toilet. The owner's stateroom is placed aft and is very roomy; both this and the captain's room are furnished in the same manner as the main cabin.

The ketch rig is one of the finest evolved for a cruiser and although it has not been used to a great extent in America it is a favorite rig abroad, especially about the British Islands.

Under sail the yacht is very fast and has proved herself to be a wonderful sea goer. Painted black above the waterline with a light green boot top and mahogany deck houses, rail, and bright decks, and finished with bronze below the waterline Uvira presents an especially handsome appearance.

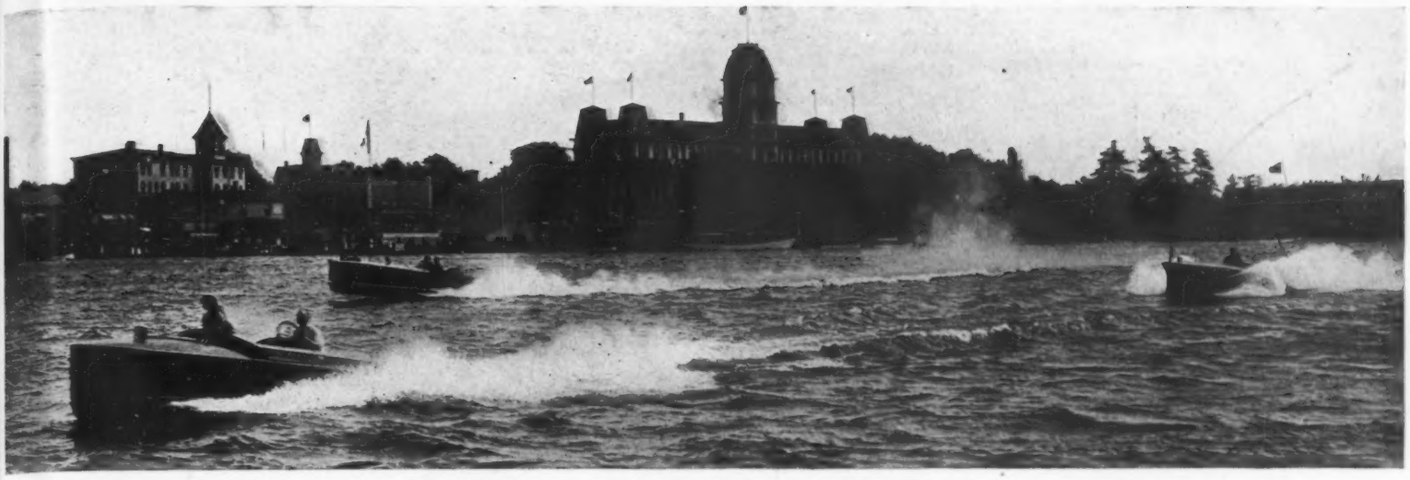
Races at Alexandria Bay

At Alexandria Bay, N. Y., on August 8, 9 and 11 races were held for the Championship Challenge Cup and the HERALD Trophy respectively. The weather during the first day was bad. It rained all morning with a high wind which kept up during the afternoon, stirring the usually placid surface of the St. Lawrence to a state of wrath that was too much for the speedy hydroplanes so that the time of the first race was postponed until the following day.

Six displacement boats were entered fo the HERALD Trophy. Out of these fou started. They were Mr. Harty's Ra which scored five points and represente the Kingston Yacht Club, Mr. James K Hackett's Rassendyl which scored fou points and represented the Thousand Island Yacht Club, Mr. R. S. Waldron's Kiot III scored three points and also represente The Kingston Y. C., while Miss Porcupine owned by Messrs. James Simpson & J. P Bickell, flew the colors of the Thousan Islands Y. C. Miss Porcupine finishe fourth. The course was twenty-nine naut ical miles long laid out so that three lap completed the distance, the start an finish being somewhat to the eastwar of the Thousand Islands House with outer turning marks in mid stream off Berkshir Island.

The crew of two of the boats unfortu nately misunderstood the starting signals an got away a minute too soon which necess tated their making an additional lap of th course in order to score points. These we the Miss Porcupine and Kiota III. Th Rat crossed the line a few minutes after th gun and Lady Rassendyl 19 seconds late As the craft sped over the choppy wat they threw up clouds of glistening spray bu for all of this made wonderfully good tim on the way to the outer mark. On th return trip, however, they had to contend with a four-mile tide through which the threw up even more spray than before.

All the boats made good time on both th first and second laps, but on the third the all went somewhat slower. This was pro ably due to the extremely rough goin



THE DISPLACEMENT CLASS GOT AWAY TO A PRETTY START

The summary of the first day's race follows:

Displacement races for the HERALD trophy. Course, 29 nautical miles; start 4 P. M.

Boat and Owner.	Elapsed Time. H. M. S.
The Rat, J. J. Harty	1 05 44
Lady Rassendyl, J. K. Hackett	1 13 04
Kiota III., R. S. Waldron	1 23 28
Miss Porcupine, Simpson and Bickell	1 35 17

Elapsed time by laps—The Rat, first, 21m. 45s.; second, 21m. 6s., and third, 22m. 14s.; the Lady Rassendyl, first, 22m. 54s.; second, 22m. 35s.; third, 27m. 35s.

The Kiota III. and the Miss Porcupine, starting before signal, not timed by laps.

Thursday in the second of the series Rat repeated her performance of the first day by winning in the class for displacement boats. The weather conditions were similar to the day previous, and, as a result, the time made by the boats was not remarkable. There were four starters as on the day before and the boats in the class finished as follows:

Second Race.—Displacement class, for the HERALD Trophy. Start, 3:00; course, twenty-nine nautical miles.

Boat and Owner.	Elapsed Time. H. M. S.	Pts.
Rat, J. J. Harty	1 03 35	10
Kiota III., R. S. Waldron	1 05 18	7
Lady Rassendyl, J. K. Hackett	1 33 35	7
Miss Porcupine, Simpson, Bickell, Disabled.		2

Time by laps—Rat, 21:21, first; 21:21, second; 20:53, third. Kiota, 24:07, first; 20:31, second; 20:40, third. Miss Porcupine, 20:17, first; 20:08, second. Lady Rassendyl, 22:09, first; 21:52, second; 21:14, third. The Lady Rassendyl's actual elapsed time was 1:05:15, or three seconds faster than the Kiota's.

There were four starters in the hydroplane class, Miss Detroit II, owned by Mr. G. A. Woods, Hawk Eye II, owned by Mr. A. L. Judson, P. D. Q. IV, owned by Mrs. A. G. Miles, and Peter Pan VIII, owned by Messrs. Simpson & Bickell. The boats got off with one of the prettiest starts imaginable, all four contenders getting away within five seconds of each other, Miss Detroit II leading followed by Peter Pan VIII, P. D. Q. IV and Hawk Eye II. As the race progressed Miss Detroit increased her lead and it was not long before the western boat was nearing the finish line and running as smoothly as when she started. Her elapsed time for covering the 29 nautical miles was 45 mins. and 9 secs.—at the rate of 44 miles an hour—while Hawk Eye II, driven by her owner, Mr. A. L. Judson, President of the American Power Boat Association, was second. Her average speed being 40 and 4-10ths miles an hour and that of P. D. Q. 32 4-10ths miles an hour. Peter Pan VIII had unfortunate mechanical troubles which put her completely out of the running for the series.

On Saturday racing conditions were ideal and the final race of the series for the displacement boats and the second of the three races for the Championship Challenge Cup for hydroplanes started auspiciously.

The Rat although third in the day's race won the series, she having secured two firsts and one second. She had 13 points as against 12 for Mr. Waldron's Kiota III and 11 for Mr. Hackett's Lady Rassendyl. Miss Porcupine having failed to finish in the first day's race had but two points although while running she made the fastest round of the course.

Miss Detroit II repeated her victory of the preceeding day with little effort and P. D. Q. IV, the only other starter went but a lap in which she broke her propeller shaft. This made Miss Detroit II the Championship Trophy winner without competing in the third race as it gave her a total of ten points for the series. Therefore, Mr. Harty was awarded the HERALD Trophy and in addition takes the Staples Cup, which was put up by Commodore Staples of the Thousand Islands house. The summary of the last day's racing is as follows:

Third and final race, among the displacement craft for the HERALD Trophy:—

Start, 3:00; course, 29 nautical miles.

Yacht.	Owner.	Elapsed Time.	Points.
Kiota III., R. S. Waldron		1 00 00	12
Lady Rassendyl, J. K. Hackett		1 03 16	11
The Rat, J. J. Harty		1 03 54	13
Miss Porcupine, Simpson and Bickell, D. N. F.			

By rounds—Kiota, 20:26 first, 20:08 second, 9:26 third; Lady Rassendyl, 21:19 first, 21:14 second, 21:21 third; The Rat, 21-14 first, 21:14 second, 21:21 third; Miss Porcupine, 20:30 first, disabled.

Hydroplanes for Challenge Cup.—Start, 4:30; course, 29 nautical miles.

Yacht.	Owner.	Elapsed Time.	Points.
Miss Detroit II., G. A. Wood		49:06	10
P. D. Q. IV., Mrs. A. G. Miles; broke down.			

By laps—Miss Detroit, 16:01 first, 16:23 second, 16:42 third; P. D. Q. IV., 18:15 first; disabled.

MISS DETROIT III PROVED TO BE THE FASTEST HYDROPLANE

KIOTA III FLYING THE ENGLISH FLAG MADE OUT WELL IN THE SERIES

PORT SAN LUIS, WITH THE OIL TANKS OF AVILA ROOSTING ON THE HILLS BACK OF IT

In the Wake of Cabrillo and Vizcaino

Being the Account of a Cruise Along the Wonderful Pacific Coast

Continued from August Number

By WILLIAM M. McCOY

"YOU say dat gal in 'Frisco done got de Skippah's towline?" Judy asked Jack. "Well, Mistah Jack, ef she's goin' yank us out in dat ocean ag'in, she's done got mah goat!"

The anchor chain stretched toward the beach, and in getting the big hook we nearly got into the breakers. With everything made fast by extra lashings, the covers on the skylights, and with the engine working perfectly we stood out of the cove, after being marooned there for nearly five days. The wind had died down, and was only blowing a little more than forty miles an hour, but the seas were literally on-rushing mountains.

My inner man is a friendly cuss, and gets along very well with gasolene and oil fumes, so I was elected step-mother of the engine. The other two agreed to take the deck for the night, if I camped with the engine. The yacht pitched so wildly that I had to sit on the floor, with my back braced against a bulkhead. But it was warm and dry in there. Under the circumstances I thought a light was unsafe, and lit one only when it was absolutely necessary. Judy's bunk was in the engine room, and the poor, terrified sea cook lay in it, the whites of his eyes gleaming in the dark. If he blinked once during the night I failed to catch him at it, and I tried.

We rounded Point Conception at eight o'clock, and headed west northwest, directly for Point Arguello light, which we could plainly see, and streamed the log. The yacht climbed the first big sea, dove down the back of it like a regular Annette Kellerman, scooped up about a carload of water out of the next one, and sent it surging aft as she struggled up the slope. The water poured off both sides, but came roaring back rail deep to strike the taffrail and shoot up into the air. The Dreamer advanced with a sort of loop the loop motion, which could be plainly felt inside. I could feel her dive, feel her tremble and stop when she hit the next wave, feel her rise and move backwards in the grip of the comber, hear the water rushing along the decks above me, then feel her move forward again, and repeat the stunt. I couldn't tell whether we were gaining or losing, the backward sweep of the huge seas was so pronounced. Before morning the Skipper and Jack had had to learn how to breathe water to keep from drowning, but none of it got to me, and I had even been able to crawl into the cabin a couple of times for a pipe.

Without an instant's let up we banged into it until nine o'clock next morning, when we weathered Point Arguello. It's a wonder the sticks were not ripped out of her. The Dreamer's entrance is easy, and this is all that saved them. The engine had not varied ten points from its four hundred and fifty revolution schedule—and we had made twelve miles in thirteen hours! The fact that the log registered thirty-one knots gives an idea of the force of the seas.

Scarcely had we brought Point Arguello abeam and changed our course to north by west when the wind began to go down. We had beaten old Point Conception at last. The sea was still tremendous, but with the wind lightening and hauling into the west, our speed began to increase. By noon the day was perfect, and we raised Point Sal about fifteen miles off our starboard bow. The wind kept on crawling around until it was coming from a little south of west, and we set our mended foresail, and staysail, and the yacht woke up.

Point Sal was abeam at two o'clock. It is a bold, dark headland, streaked with yellow sandstone. No light marks it. A rock island lies off it and reefs run out from both the point and the island. Shortly afterward we raised Point San Luis almost dead ahead. The wind was increasing again, and under fores'l and stays'l and the engine the log registered nine knots an hour.

Passing the bell buoy marking Souza Rock at three forty-five, we swung a little further west to give Whaler Island Ledge plenty of room, and when abreast of North Whaler Island, we stood into Port San Luis. The harbor is full of pinnacle rocks but they are all marked by spar buoys, and we anchored close to the wharf.

There is nothing in Port San Luis but a dock, a hotel, and mountains. It is the port of San Luis Obispo, twelve miles inland, and of Avila, an oil refinery town across San Luis Obispo Bay. Pipe lines from the refinery and tanks roosting around on the hills run out on the dock, and vast quantities of oil, crude and refined, are shipped to all parts of the world.

A yacht is so unusual in Port San Luis that Dick Dempsey, the hotel proprietor and political boss of this neck of the woods took us over the mountain through the redwood forests to San Luis Obispo in his car, had us interviewed by the local editor and did all kinds of things to us. San Luis Obispo is an oil town, with a steady and never ending boom, and if there is anything that doesn't go there we can't remember what it is. Judy said it was six o'clock the next morning when Dempsey's launch delivered us aboard again.

The Muchado brothers showed up about noon and certainly proved friends in time of need. We needed gasolene, and had to go to Avila to get less than a shipload, and the ledges prevented the Dreamer from going into that end of the bay. They hailed from Port San Luis, and consequently the draught of their boat was light enough to allow them to go into the shallow end of the open bight, and they got us a drum of fuel, and then returned the container.

That evening the captain, mate, and chief engineer of the ocean going tug

WE ANCHORED IN PEBBLE BEACH COVE, FOURTEEN DAYS FROM LOS ANGELES HARBOR

Dauntless, lying near us, came aboard, and later we visited them, swapping lies until late. The tug was going north at four o'clock next morning with a single barge in tow, and the captain suggested that we tie on behind the barge. This kindled the Skipper's eye, for he was already late in his promised tryst with "dat gal."

We had about fifty fathoms of five-inch line which was anything but new, yet which appeared serviceable. At the end of this we were dragged out of port the next morning. The fog hung close, and the ghostly mountains seemed to shoulder straight up through the sky. Outside it was thicker, and we could scarcely see the barge ahead of us. But the tug hit up her ten knots, and we tore along. It felt the way a skiff being towed behind a power boat looks.

The Skipper was happy, but his joy was destined to be of short duration. Off Point San Luis the fog became absolutely complete, and we ran into an oily but huge head sea. Nothing was visible but fog, our tow line just naturally disappearing. The tug was whistling and lunging ahead, and everything seemed lovely when we finished breakfast and went on deck to fill our pipes and watch the ocean hurry past—when the tow line snapped, and the Dreamer tried to stand on her nose. While we grabbed for something solid, the crash of dishes and dark curses came from the galley. We were in the middle of a black fog, and had taken no departure, for in his delight the Skipper had forgotten to stream the log, after announcing that he would do it.

The coast along here is all rock, the bluffs ranging from forty to sixty feet high, and there are numerous outlying pinnacle rocks, some of them more than a mile from shore. Starting the engine, we headed her west, knowing there was plenty of room between us and Siberia. After a while we felt braver, and tried west north-west. About ten o'clock the fog cleared, and we made out Point Buchon over our starboard quarter. It is unlighted, but Mount Buchon, nearly two thousand feet high, is just back of it, so it is easy to see on a bright day.

Strange noises began coming from the engine room, and I went to investigate. The place was full of smoke, and the engine was so hot it fairly sparkled. I turned off the spark, but it kept right on going, and still kept on after I turned off the gas until it had used up all there was in the feed pipe. The water circulating pump was out of commission, of course. This was another "special," and it was instantly evident that fixing it was going to be a long job. The sea had flattened out, but Jack and I had scarcely started taking down the pump, when the wind came down out of the north-west to see what was the matter.

While it was light, it was carrying us down on to the point, and the yacht would not handle properly under foresail and staysail, but sagged in toward the coast. Just to see what would happen, we shifted the staysail, lacing it to the main boom, and setting it as a trysail, and it worked pretty well. For some hours we labored over that pump. It was a centrifugal, and the key fastening the wheel to the shaft had been too small, had worked out and jammed against the casing, messing things up generally. We had to file a new keyseat, and make a larger key. By the time the job was done the weather had gone to the bad generally, and for an hour we had to work sitting on the floor while the yacht rolled her rails under in a short cross chop. Naturally we had a fight with the engine before it would start, and then it was grouchy. By that time the wind was dead ahead. Soon the fog came back, but after a little it changed to rain. The only way we could stay in our bunks that night during our watches below was by lying face downward with our arms around the mattress, our weight on our forearms. About five o'clock the next morning the valve in the petcock on top of one of the cylinders worked open in some way, and set up an infernal whistling, which was punctuated by Judy's yells, imploring the Lord to forgive and protect him.

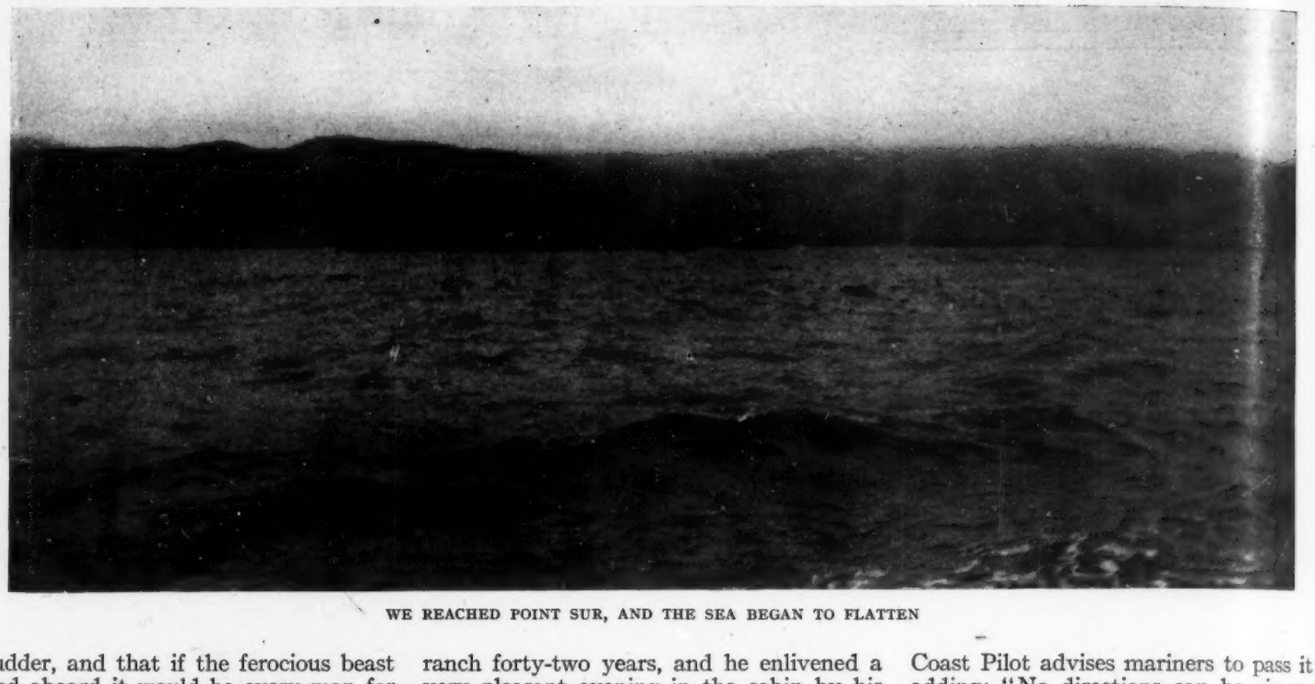
When I got to the engine room fire and smoke were shooting out of the cock, of course, and Judy was screaming at every blast. When I closed the valve, he said he had been dreaming that he was driving a hearse, and that when the racket woke him and he saw the fire he thought the devil himself had come to claim his passenger.

An hour later it began to moderate, and our progress to improve, but Judy was not enjoying himself. "I doan want to see no mo' water no mo'," he continually chanted. By nine o'clock it was bright and clear, and San Simeon Bay was in sight off our starboard bow. It looked temptingly quiet and peaceful in there, but we held on for Point Piedras Blancas.

As we passed the point we set our jury trysail again to steady her, as the wind was coming up, and the sea getting ugly. Soon it was thick and nasty enough to satisfy anyone, with the steep seas breaking, and the yacht stood on one end and then on the other. Suddenly a shrill scream echoed from under our after overhang. For about two freckles of a second we thought we had run down a small boat, and that someone had managed to catch and hold on to our rudder. Then we realized what it was.

The fog siren on Point Piedras Blancas has a peculiarly shrill note, and through some trick of the fog we had not heard it before. By an odd coincidence it was timed with the big rollers, and every time our stern stood up in the air to let a sea slide out from under the yacht, the siren screamed, and echoed from under the overhang. The seas rattled the rudderpost in the port, and it did sound as if someone were hanging to the rudder and screaming in unearthly terror.

Judy was asleep in his bunk, and the Skipper decided he needed another scaring. Going below he awakened him, telling him that a deadly sea horse had caught hold of



WE REACHED POINT SUR, AND THE SEA BEGAN TO FLATTEN

the rudder, and that if the ferocious beast climbed aboard it would be every man for himself, with very small chance for anyone escaping alive.

"Sea hoss! Whar?" exclaimed Judy, scrambling out of his berth.

"Come and see for yourself," directed the Skipper.

Judy came aft and looked over the stern.

"Whereabouts? Ah don't see no—"

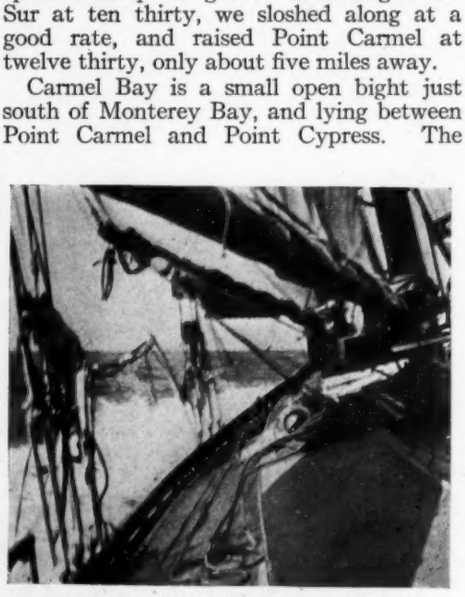
But just then the rudder rattled and the siren screamed, and Judy nearly fell backwards. Looking warily over his shoulder, he went below, appearing shortly armed with a knife as long as his arm, but he would not go near the stern. Every time the siren screamed his eyes rolled—but noon came along, and we had to explain matters in order to persuade him to go below to get lunch. He wasn't happy.

From noon until two thirty we just held our own with the gale and sea. By this time the water had found ways to get below, and the dampness in the engine room was raising Cain with that fancy ignition system. Between seas we went ahead, but the next comber just naturally shoved us back, besides drenching us. Finally we decided to run back, and anchor in San Simeon Cove. With the wind astern, and our jury trysail and foresail set, the Dreamer ran like a scared coyote, but steering was a terrific job, and we were mighty glad to slide out of the wind and anchor in the cove, letting the hook go in four fathoms.

San Simeon Cove is a tiny, open bight, perfectly sheltered from northerly weather, but from nothing else. It is the port of the seventy-six thousand acre Hearst Ranch, and everything in sight, except the ocean, belongs to the ranch. A good store is maintained, however, and all the natives welcomed us, and the more prominent ones came aboard. The nearest railroad is forty miles away, and time moves placidly on the great ranch. One old chap had been on the ranch forty-two years, and he enlivened a very pleasant evening in the cabin by his tales of the scrapes "Willie" weathered in his youth. William Randolph Hearst was surely the old man's hero, and from what he told us, "Willie" certainly kept them all awake when he spent his boyhood vacations on the ranch. The next day, Sunday, we spent very pleasantly with the hospitable people of San Simeon, and left at eight o'clock in the evening. Rounding Point Piedras Blancas, we found a heavy sea, but no wind, and plugged along on our course, northwest, one half west.

No wind showed up, but the sea continued very heavy all night, so heavy indeed that it slowed us down materially, and the yacht pitched terrifically. At eight o'clock Monday morning, however, we raised Point Sur, and as the sea began to flatten our speed and spirits grew. Rounding Point Sur at ten thirty, we sloshed along at a good rate, and raised Point Carmel at twelve thirty, only about five miles away.

Carmel Bay is a small open bight just south of Monterey Bay, and lying between Point Carmel and Point Cypress. The



THE SHORT CANVAS WE WERE UNDER WAS AS MUCH AS DREAMER COULD CARRY

Coast Pilot advises mariners to pass it by adding: "No directions can be given that would be of value." But here is where the Skipper had promised to meet "Dat Gal," and he was going in if he had to wade, and carry the Dreamer on his back.

Rounding Point Carmel, we felt our way in, sounding every few yards. Once inside we cautiously proceeded to Pebble Beach Cove, a small indentation of Carmel Bay, and finally anchored off Pebble Beach Lodge in three fathoms, fourteen days from Los Angeles Harbor.

We didn't know it at the time, but to the Dreamer belongs the honor of being the first yacht to anchor in this tiny harbor. This fact started all manner of things going, and our fame preceded us to Monterey four miles away. While we were at lunch we were hailed from the beach by the Commodore Picker, of the Corinthian Yacht Club of San Francisco. After learning that we had found plenty of water and room, he said that his yacht, the Harpoon, was in Monterey Bay, and that he would bring her over the next day to keep us company. The Commodore is a San Franciscan, and a sportsman. You can say no more. He placed his touring car and chauffeur at our disposal, and also the Harpoon's crack professional.

Days later, after we had enjoyed the famous drives about Monterey and beautiful Del Monte, we learned of the other things our anchoring in the cove had started. Some discerning individual had looked us over, and had immediately reported to the sheriff that suspicious characters had moored in the tiny bay, and that if we were not smugglers, we surely were upon no good mission, or we would have put into a regular harbor like honest sailormen. Finally a deputy jokingly told us of reports, and how the sheriff had had us showed, and had had the yacht watched night and day, until he made sure who we were

Commodore Picker's crack sloop came in and anchored near us, and quite a fuss was made on shore. Carmel is the home of a famous colony of writers and artists, and has been described any number of times, and I am not going to say anything about it, except that the descriptions do not do it justice.

When our new sails at last came, the Harpoon's professional was right on the job, helping us bend them. But when we spread out the canvas we got an awful shock, for the hickory-headed sailmaker had made them only three-quarters as large as they should have been. The mainsail was a yard too short on the boom, hoist and gaff. The fore and headsails were in proportion. How he made the mistake I can't understand, but they certainly looked foolish, and we were terribly chagrined.

"Damn me eye!" the Harpoon's professional swore, "it's the first time I ever saw a schooner without nothin' but storm-s'ls! But the blushin' lubber does know how to cut a sail!"

And it was so, the sails set beautifully.

It was time for Jack and me to be thinking of getting home, but the Skipper was so blasted looney in his bliss that he wanted to drift on till the end of time. He said he would get a professional crew, and use the yacht for a while around Monterey before returning south, so we left him to his fate, and took the train for home.

Was it Lord Byron who exclaimed: "See the Bay of Naples, and die!" I am not sure about that, but I do know that Irvin Cobb gave better and more cheerful advice. He wrote: "See Monterey Bay, and live!" Without disparaging the Bay of Naples in any way, I want to add that any man who isn't glad that he is alive when he is looking at Monterey Bay is dead already—only the undertaker has been a little slow in calling for him. But we couldn't see very much of it that Thursday morning in mid-September when we forced the anchor to give up its last bite of Monterey mud, and the Dreamer stood out of the harbor under power, heading north northwest for the bell buoy off Point Pinos.

"Dat gal in 'Frisco" had the skipper of the northward voyage hard aground, with his plans scattered up and down the beach; so three of us, including the regular skipper, had come north to take the yacht home. If you were not a yachtsman, you would think, of course, that we should have had enough on the northward voyage, but being members of the tribe you know that:

> "I must down to the sea again, for the call
> of the running tide
> Is a wild call and a clear call that may not
> be denied;
> And all I ask is a windy day with the white
> clouds flying,
> And the flung spray and the blown spume,
> and the seagulls crying."

We had arrived in Monterey early the previous morning, intending to sail before noon, but some time during the railroad journey, ptomaine poison bugs boarded both Prog and the Skipper, and we had to put off sailing for a day. Even though our time was limited, we sneakingly welcomed the excuse to linger, for no one is ever in a hurry to leave Monterey Bay. It was while searching for the bay which Vizcaino had described, that Portala, at the head of a land expedition in 1769 discovered San Francisco Bay.

Monterey was made the Spanish capital of all the Californias, and here the great Presidio was located, and the Gubenador lived and ruled with great pomp and ceremony. The old church, part of the Mission San Carlos Boremeo del Carmello, built by Father Junipero Serra and his gray robed friars, is still in use. The proud ships of old Spain swung to their anchors in the sparkling bay, and many a tale worth hearing must have been told over goblets of dark red wine in their richly carved cabins.

Mexican revolutions have not been popular in this country lately, but California was won from Spain in the Mexican revolution of 1821. She caught the infection, and Americans who had adopted her as home raised the Bear Flag in 1846, declaring the independence of California, and started wresting the state from the Mexicans. The same year the United States went to war with Mexico, and Commodore Sloat captured Monterey, which was still held by the Mexicans, and raised the stars and stripes, proclaiming California American territory. Many a modern writer has woven romances about the Monterey of old, and every person with writing inclinations who has visited the place, has done his or her best to describe its charm and beauty, so I am going to call that job well done, and get back on the course.

Rounding the bell buoy we stood to sea for half a mile in order to give the point plenty of room, and turned south at ten thirty, streaming the log. Point Pinos is rounding and rocky, with a reef visible for a quarter of a mile seaward. The lighthouse is on the northern end of the point, and about three hundred yards back of it the pines begin. The fog was so thick we could hardly see the lighthouse. A big, sullen, oily sea heaved into our little circle of vision, did all it could to us, then slid out of sight to smash itself to pieces on the rocks, its booming growls vibrating through the fog like muffled thunder. The visit of the ptomaine bugs had left Prog weak and upset inside, but he was on the mend, while the Skipper, in spite of his protests that he would soon be fit, was far from being through with them.

The coast along here is very bold, lined with cliffs, and the thirty fathom curve is only about a mile from the breakers, with now and then a submarine canyon giving Davy Jones plenty of elbow room. Cypress Point, the northern hook of Carmel Bay, is heavily wooded and sticks out about two miles beyond the general trend of the coast. We had it abeam at eleven thirty, and swung on past Carmel Bay on a south southeast course for Point Sur, eighteen miles down the coast.

A little breeze from the southeast began percolating through the fog, and freshened so rapidly that it was soon ripping the mist into long streamers. It was practically dead ahead, but we made sail, and stood down the coast in short hitches. Now and then we caught glimpses, when the wind made a hole in the fog, of the huge rocky butte which forms Point Sur. The breeze freshened steadily, until by two o'clock it was a young gale, and we decided to stand off the coast for more sea room.

The sea was ugly, and the best course we could lay was south by east. Under her tiny sails the yacht tore along, throwing fathoms of foam in the steep chop, the spray flying to the spreaders. A bitter cold rain squall beat down the sea a little in mid-afternoon, but it nearly froze us. It blew over in half an hour, then three more came along to cheer us on our way.

At three thirty we came about for an inshore tack, and the Dreamer bucked wind, sea, and current. Half the combers were breaking and things were mighty wet. We still had all plain canvas set, but if the sails hadn't been so small we never could have lugged them. Between seas the yacht seemed to be racing along, but the big, breaking combers would come swash-buckling up, and smash her starboard bow. The thundering blows seemed to stun her for a moment, and she would stagger back, as if panting for breath and strength, and then plunge on. We couldn't see the coast at all, and in the sea and current the log was almost useless, so after an hour of terrific punishment, in which we lost rather than gained southing, we came about on the port tack and headed south by east again, figuring our position as best we could, and noting the log reading.

All night long we plunged into a mountainous sea with a gale behind it. The moon and stars were invisible, and the combers leaped at the yacht out of a world of absolute blackness, their spumy crowns the only light. Snatching the crests off the seas the wind filled the valleys between with choking spindrift, except when icy rain squalls beat it down for a time.

The Skipper had been getting worse since noon. We hadn't realized in time how sick he was. With the night our uneasiness about his condition grew to genuine alarm, and at midnight it looked as if no man could suffer as he was and make port safely. But there was little we could do to aid him, and he lay face down in his bunk, his arms about the mattress, rocking back and forth with the lunge and heave of the yacht. Naturally, with but two of us to handle the yacht, no one slept that night.

(To be continued)

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AEROPLANES ARE THE EYES OF THE ARMIES AND NAVIES OF EUROPE, AND THE SIDE THAT HAS THE GREATER NUMBER OF THEM IS ON THE WAY TO VICTORY

We Must Look to Air-craft to Strafe the German Menace

By CYRUS WILSON

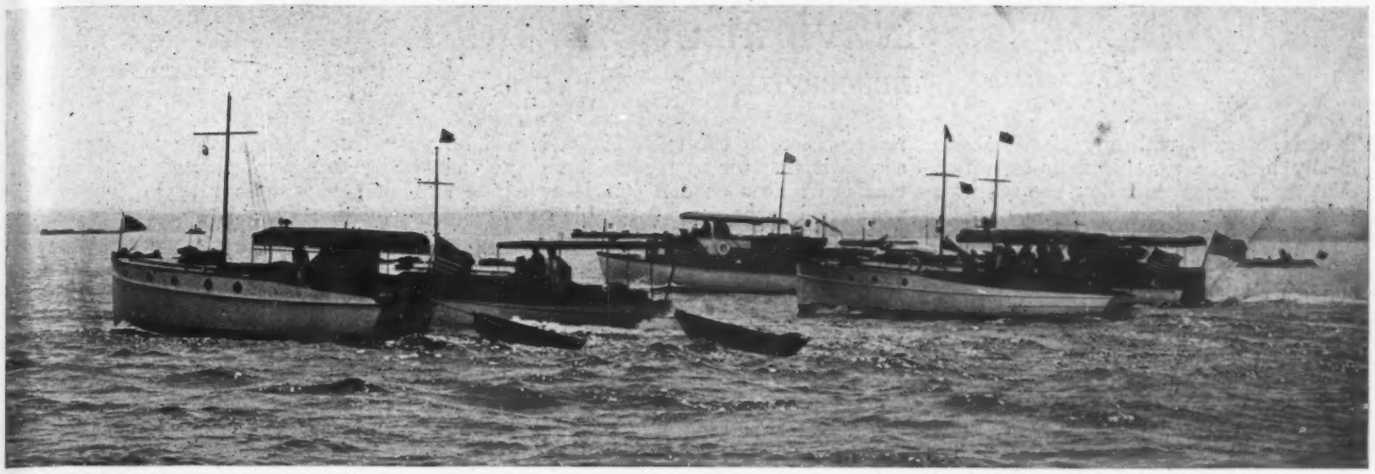
SINCE the middle of April there has been an average of twenty-five English vessels sunk by submarines and mines each week. This means that between thirty and thirty-five vessels of all nationalities have been lost in the same span of time while, to date, in the neighborhood of one fourth of Great Britain's commercial vessels in the merchant service have been destroyed, with an equal percentage among the shipping of other nations. This rate of destruction exceeds by many tons the building capacity of the shipyards of the world. Perhaps the German's plan of accounting for, at least, one million tons per month has fallen down, but there is still a prospect that they may accomplish their desire within the next six months.

The submarine is an elusive craft and, when one realizes that these boats are operating on and under a water surface of more than 3,000,000 square miles in extent, the marvel is that the Allies' naval vessels have been able to account for any of them. They now are operating a fleet of approximately 3,000 vessels, some destroyers, some trawlers, some yachts, in addition to light cruisers, armed merchantmen and a large fleet of motor propelled "U" boat chasers. This means that these craft must each patrol 961 square miles of water which is equivalent to a rectangle having sides 31 miles long. Can't you imagine cruising around this vast space hunting an enemy that is partially submerged most of the time and wholly submerged the rest of the time? And can't you imagine the difficulties of spying him?

From all reports Germany is able to build a submarine a week and the supposition is that she now has a fleet of 150 of these

(*Continued on page 143*)

Photo Courtesy Our Navy Magazine
THE FLYING BOAT HAS A PARTICULAR USE IN PATROLLING THE HARBORS, BAYS AND COAST LINES IN THE WAR ZONES. THEY ARE ALSO ESPECIALLY USEFUL AS RECONNAISANCE CRAFT FOR THE LARGER SHIPS OF THE NAVIES



THIRTEEN CRAFT STARTED IN THE RACE HELD UNDER THE AUSPICES OF THE A. P. B. A. AND THE L. I. S. P. B. A. FOR THE HERALD TROPHIES

The Motor Boat Race for the Herald Trophies

Under the auspices of the American Power Boat Association and the Long Island Sound Power Boat Association the races for the HERALD trophies were sailed on July 28. The course was from an established mark somewhat to the East of Huckleberry Island thence around Stratford Shoal Light and on to the finish line at the entrance to Lloyds Harbor between the old and new lighthouses on the shore of Huntington Bay and the sand spit at Lloyds Harbor.

The regatta committee aboard the express cruiser Emoh III gave the warning signal at 10 minutes to 10 o'clock and the preparatory signal five minutes later. After these preliminaries the gun was fired that started the entrants on their way.

There were thirteen craft entered, divided into two classes—A and B. Sparetime, owned by Zebelon Wilson, was first over the line, she being about half a length ahead of Gardenia. Next in order came Sentinel, Helen B, Victory, Farad and Melloise, Heather, Kumalong, Romance and Luetta. Almost 5 minutes elapsed before the Mary Ann followed the rest of the fleet over the starting line and it was a long stern chase for this craft and one in which she was unable to overtake the other craft. Emoh III, the stake boat, hung around for about fifteen minutes and then got underway and, at her top speed, which is about 22 miles an hour, soon overtook the racers. After passing the fleet she made her way into Huntington Bay and anchored at the finish line between the two lighthouses to be in readiness for the fleet as they finished.

Romance was the first of the fleet to round Eaton's Neck and she crossed the finish line at 2.42.45, having made the fastest actual time in her class. Melloise finished next, actual time, followed by Gardenia, Luetta, and Helen B., and, after figuring time allowance, it was found that Gardenia was the winner of Class A.

With the Class B cruisers Victory II made the best time, she being followed by Sentinel, Heather, Kumalong, Sparetime and Mary Ann. Farad did not finish and the corrected time gave the race to Sentinel. The summary of the race is as follows:

CLASS A.—RATING MORE THAN 38; START, 10:00

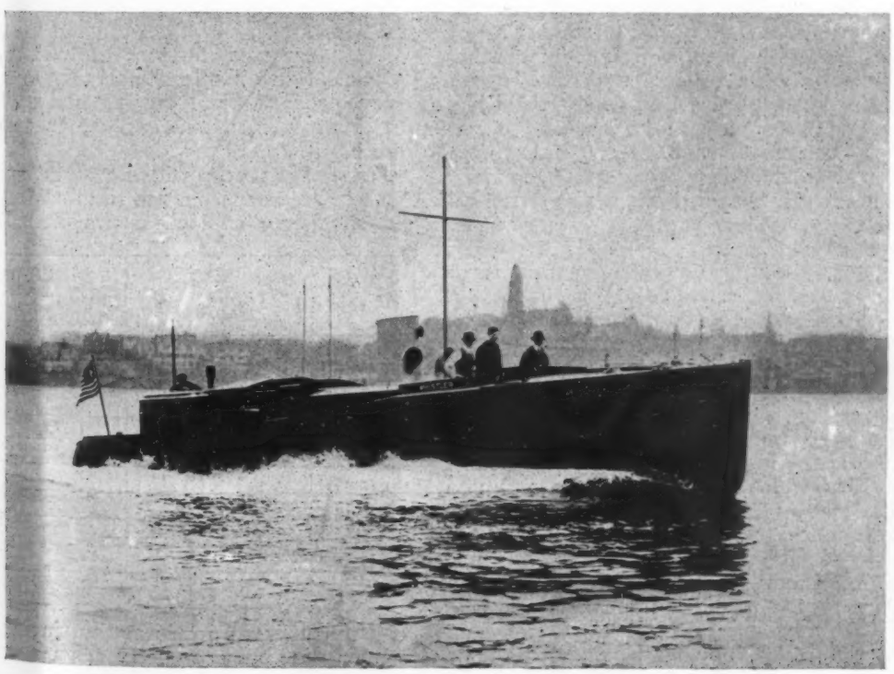
Boat and Owner.	Finish. H.M.S.	Elapsed Time. H.M.S.	C'rected Time. H.M.S.
Romance, B. E. Eldred	2:42:45	4:42:45	4:42:45
Melloise, H. G. Blanchard	3:00:50	5:00:50	4:19:02
Gardenia, H. Anderson	3:33:34	5:33:34	4:14:19
Luetta, W. E. Little	4:09:00	6:09:00	4:54:31
Helen B., W. Bogley	4:15:38	6:15:38	4:49:57

Corrected Times—Gardenia, 4:14:19; Melloise, 4:19:02; Romance, 4:42:45; Helen B., 4:49:57; Luetta, 4:54:31.

CLASS B.—RATING LESS THAN 38: START, 10:00

Victory II., H. A. Jackson	3:47:20	5:47:20	5:29:18
Sentinel, A. E. Luders	4:07:30	6:07:30	5:08:20
Heather, J. H. Wallace	4:12:40	6:12:40	5:57:43
Kumalong, E. S. Prince	4:19:52	6:19:52	6:19:52
Sparetime, Z. Wilson	4:27:05	6:27:05	6:20:58
Mary Ann, C. Lauten	4:32:12	6:32:12	6:12:02
Farad, C. F. Chapman	Did not finish.		

Corrected Times—Sentinel, 5:08:20; Victory II., 5:29:18; Heather, 5:57:43; Mary Ann, 6:12:02; Kumalong, 6:19:52; Sparetime, 6:20:58.



WHISTLER IS A FIFTY-FOOTER OWNED BY MR. LAWRENCE F. PERCIVAL OF BOSTON. SHE IS POWERED WITH A 300 H. P. STERLING MOTOR

Whistler, a 23-miler

For years Mr. Lawrence F. Percival of Boston has been an enthusiastic boatman. Consequently when his Manatee was taken over by the Government for Despatch Service and it became known that he was without a cruiser it was decided by those who knew his fondness for boats, that the condition was only temporary. His new craft is 50 ft. long by 11 ft. 6 in. wide, and has sleeping quarters forward, a commodious cabin aft, while the motor, a Model F-300 H. P. Sterling, is housed amidship. The motor room is ventilated by two large cowl ventilators that supply a volume of fresh air that is ample. A cockpit is in the forward deck, boxed in so as to be dry in bad weather. The craft has a sustained speed of 23 miles an hour.

Navigating in Fog

By HERBERT L. STONE, Lieut., U. S. N. R. F.

IT can be said truthfully that no one really likes to run his ship in a fog. Yet most men who follow the sea as a profession have to keep their ships going, fog or no fog, and while mindful of the ever present danger of navigating when nothing can be seen and when it is thicker than the proverbial pea soup, they keep going, thick weather or clear, and by keeping close "tabs" on their position at all times, usually come through without trouble.

Not so with the average yachtsman or motor boat skipper, however, and they almost never run in thick weather, either staying in harbor if it looks like fog or anchoring if they are unlucky enough to get caught out. This is largely because they are used to running their boats in a slipshod manner, get confused if they cannot see landmarks, and don't pay strict attention to their compasses.

The two vital things that a man must know who attempts to run in thick weather are, course and distance; and with these two factors accurately known and a good point of departure, a careful navigator need have little trouble unless in very narrow channels or in crowded waterways.

First of all he must be dead sure of his compass. One that is "about right on most headings" won't do for use in thick weather, and if your compass has not been accurately adjusted, be sure that you have a deviation table handy showing its error, easterly or westerly, on every point, or on at least every other point of its azimuth or circumference. It is easy for any man to swing his boat on a known range and find how much his compass is off on each heading, and then with a deviation table made up like Fig. 1 he can be sure that when he wants to steer a compass course accurately he can do so.

SHIPS HEAD	DEV.	TO STEER THIS COURSE HEAD BY COMPASS
N.	- 1/8 W	N 1/8 E
N.N.E.	+ 1/8 E	N x E 7/8 E
N.E.	+ 1/4 E	NE 1/4 N
E.N.E.	+ 3/8 E	NE x E 5/8 E
E.	+ 1/2 E	E 1/2 N
E.S.E.	+ 3/8 E	E x S 5/8 S
S.E.	+ 1/4 E	SE 1/4 E
S.S.E.	- 1/8 W	S x E 7/8 E
S.	- 1/4 W	S 1/4 W

FIG. 1

If degrees are used, as is getting to be the custom with yacht compasses as well as with merchant and navy compasses, numbered from 0 to 360°, the same deviation table would look like Fig. 2.

Remember that in changing *magnetic course to a compass course* easterly deviation (marked +) is applied to the left and westerly deviation (marked—) is applied to the right. Also, in the table given, it will be sufficient to steer to the nearest degree as this is as near as one can steer a small vessel under the most favorable conditions and the table was constructed to minutes to show the principle involved. The other semi-circle of the compass is carried out in like manner in the completed deviation table. When the deviations are large and vary greatly between headings this form of table is not as accurate as a Napier's diagram, but a description of that cannot be made in the space of this article and properly belongs under compass work.

The first thing to do if it shuts down thick is to get a bearing on some navigation mark or landmark before the fog obliterates everything. If this is the next mark on your course, or the entrance to some harbor where you want to get in and anchor, so much the better, and you can steer for that point with certainty that you will make it when you have run your distance down.

This presupposes two things: first, that you know your distance to the object sighted and, second, that you know your speed through the water. Most power boat owners know the speed of their boats at full speed and at maximum revolutions of the engine, but few of them ever take the trouble to get the exact speed on a lower number of revolutions or when the boat is running slow. To know this necessitates another table showing the boat's speed at the various revolutions at which she is likely to be run. Make this table when you are taking your week-end runs during clear weather, taking the time between charted buoys or lighthouses, measuring the distance on the chart and allowing for the tide, if on the coast. The strength of the tidal current is given in all tide tables, either Government's or Eldridge's; or you can obtain your speed with a good taffrail log, making allowance for tide, send of the sea, etc. You should have used such a log often enough to know how accurate it is and how much it can be relied on. A good taffrail log is an excellent check on your speed by engine revolutions.

Now, knowing the direction you must steer and the distance you must go, one can go ahead with confidence of coming out where he expects to. For instance, if the weather looks as if it might shut in thick, and you have just passed a lighthouse (Execution, on Long Island Sound, say), and are a mile by it, bound for Stamford take a bearing on it to get your present position, which mark on the chart and note the time. Then lay off a course from this position to Stamford Light and measure the distance with the dividers; say the course is N. E., distance from where you are 12 miles. Turning to our deviation table we find that to make good a N. E. course we must steer N. E. 1/4 N. by our compass; and if our speed is ten miles an hour (or a mile in six minutes) we must run on that course for one hour and twelve minutes. A little before that we can expect to pick up the fog signal on Stamford Light. This is running at full speed and it would be quite accurate if there were no tide under us or no wind to affect our speed and course.

A head wind will knock the speed down somewhat but unless it is very heavy will not affect the boat much. But the tide is different and here we have a steady force which must be reckoned with. On the run just mentioned the tide, luckily, is either with us or against us and exerts no side pressure to speak of. Look in the tide table and you will find the average strength of the flood tide is 1¾ miles per hour. As at full speed we shall be in this tide one hour and twelve minutes it means that we will be set back two miles (about) and so we will have to run one hour and twenty-four minutes to make our distance; or, if the tide is with us, it will reduce the distance we run by approximately 1¾ miles, making our distance only 10¼ miles, which will take us one hour and two minutes to run.

As you near your destination, or have nearly run your distance down as they say aboard ship, keep a bright lookout to catch the first blast of the fog horn or bell, or for some loom of the buoy or lighthouse through the fog. You will probably hear the fog signal some minutes before you have run your distance out and can then go ahead slowly until you have located it accurately and have brought it abeam. But if you do not hear it when you have nearly run out your time, say within two minutes, stop, listen for it, and run out the remainder of your distance slowly until you hear the sound. If your mark has not a fog signal, you must try to locate it in the fog and proceed very carefully when near it, using the hand lead constantly not only to help locate your position, but to insure your not getting into shallow water before knowing it.

Navigation marks with no sound signal on them are poor things to run for in a fog and should be avoided if possible. The Government is more and more putting in gas and whistling buoys and bell buoys at turns of important channels, at harbor entrances, etc.

SHIPS HEAD	DEV.	TO STEER THIS COURSE HEAD BY COMPASS
0°	- 1° 25' W	1° 25'
22 1/2°	+ 1° 25' E	21° 05'
45°	+ 2° 50' E	42° 10'
67 1/2°	+ 4° 15' E	63° 15'
90°	+ 5° 40' E	84° 20'
112 1/2°	+ 4° 15' E	108° 15'
135°	+ 2° 50' E	132° 10'
157 1/2°	- 1° 25' W	158° 55'
180°	- 2° 50' W	182° 50'

FIG. 2

After finally locating your mark, change your course as decided upon, repeating on the next leg the operation just described. In order to keep track of your position, always try to get one mark before proceeding to the next one; otherwise you may get lost through not having a fixed point of departure on your next leg. Better spend a few minutes trying to locate the mark you have been running for than to assume that you are right and go ahead blindly.

Sound has some queer tricks in fog and often you may be close up to a whistling buoy or fog bell without hearing it. If you don't get the sound when you should, get your ear down close to the surface of the water and then if you don't pick it up send some one up the mast or on top of the pilot house, for sound often travels in layers. If the wind is towards you get down near the water. If away from you, and towards the signal, go aloft to hear it. If you don't find your mark use the lead carefully and intelligently to give you some indication of your position. Usually the configuration of the bottom is such near buoys and lighthouses as to tell you where you are. If the bottom slopes gradually off from the shoal or shore that the buoy marks, you will know from your depth which side of your course you are, unless the channel should shoal on both sides about alike. Then it will take three or four casts of the lead to let you know your position.

If you have kept a good account of your distance run, then your error is likely to be in your course, for there may be a cross tide or a beam wind or a different deviation than you allowed for to set you to one side or the other. You can usually figure on your distance more accurately than on your course, and if you don't pick up your fog signal when you have run your distance out and have stopped, better turn her head off shore as you use the lead so as to be headed away from danger rather than towards it until your lead shows you where you are.

I have not said anything as yet about slowing down in fog. The law says that in fog or thick weather a ship must run at moderate speed. It does not say half speed, or designate the speed, leaving that to the judgment of the master. As a matter of fact, many captains, in waters that are not crowded, such as are harbors and rivers near towns, prefer to run at full speed in thick weather, except when feeling for some buoy or edging their way past another boat, because they can keep better track of their position in this way. They know their speed when opened up, they are used to running the courses day after day at full speed, know the time at which they should make the buoys and what they should allow for tides, and any change of speed throws the calculations out. That is why fog makes so little difference with the schedule of boats on a regular run, provided they are not held up entering and leaving harbors.

If you only know your speed at maximum revolutions, then you had better run at that speed, if you are in clear water, but if you know your rate through the water accurately at slower speeds, then by all means you had better run at the slower rate as you do not then come upon your marks so fast and it gives you more time to find your buoys safely and to pick up the whistles of other boats. Of course, you must keep your own whistle going, provided the air storage tank will give over three prolonged blasts in succession at minute intervals. You had better see that a good bellows fog horn is on board in case you do any running in fog. Better be sure than sorry.

In the first case we described of running out a course in a fog, we had the tide either with or against us and it made figuring easy. But the tide may not always be so obliging and it may happen that it is across our course. This makes our problem different and makes navigation in thick weather infinitely more difficult. Suppose, for instance, we have just come out of Port Jefferson, Long Island, bound across the Sound to New Haven, and after clearing the breakwaters at the former place it shuts in thick. Get your bearing for position, or if you have already taken a good departure from the breakwater as you left this would not be necessary, and lay off your course and distance for the breakwater light at New Haven. Say it is N. N. E., distance 24 miles. This means with our same boat and compass, a compass course of N. x E. $\frac{1}{8}$ E. and a time of 2 hours and 24 minutes. But the tide table shows that it is ebb tide the whole way of an average strength of two miles per hour. This would be on our port beam and if not allowed for would set us past our mark on the other shore $4\frac{3}{8}$ miles in 2 hours and 24 minutes. There are several ways in which this "set" can be compensated. The simplest is to take the dividers and lay off on the chart $4\frac{3}{8}$ miles to the *westward* of New Haven light on the Connecticut shore. This would give us the point for which we want to steer to offset the easterly drift. Then with the protractor or parallel rule find this course, apply the deviation for that heading from the deviation table, and let her go.

If the current is stronger in the middle than near shore, the strength can be averaged and allowed for, or the distance it will set us in the first 40 minutes when we are near shore can be figured, then the next hour's set when we feel the full force, and finally the last 40 minutes when it slacks up somewhat near the other shore. The result of these drifts can be added together and applied to the westward of our course as before. If the tide is flood the operation is reversed.

This running across the tide for any distance is a risky business, particularly if you have not a good husky fog signal to run for on the other side, as the strength of the tide varies, running much stronger at some periods of the moon than at others, and it should be avoided as much as possible.

A good check on your position, and to see if you are being set off your course, is to take a line of soundings on the way across, say every 20 minutes or half hour. If the bottom is at all irregular this ought to be a good guide as the chart shows along the straight line of your course the depths you should get. It is a good plan in taking any soundings to take a number in a line, plotting them on a thin paper in a direction corresponding to our course and to the *proper scale of the chart.* Then by moving this paper back and forth across the chart, keeping the edge of the paper parallel to one of the meridian lines, it will go over a portion of the chart corresponding to the soundings you have put down. One or two soundings alone are of little value, except to show if you are in deep or shallow water.

If you have to stop or slow down to sound, be sure to make allowance for the minutes lost and add them to the length of time you must run on your course to pick up your mark. Study the markings on your leadline so that you will know instantly the depth without wasting time, and ring up to go ahead as soon as you have the proper reading. Better put a good man on the lead whom you can trust and devote all your own time to keeping track of just where you are every minute.

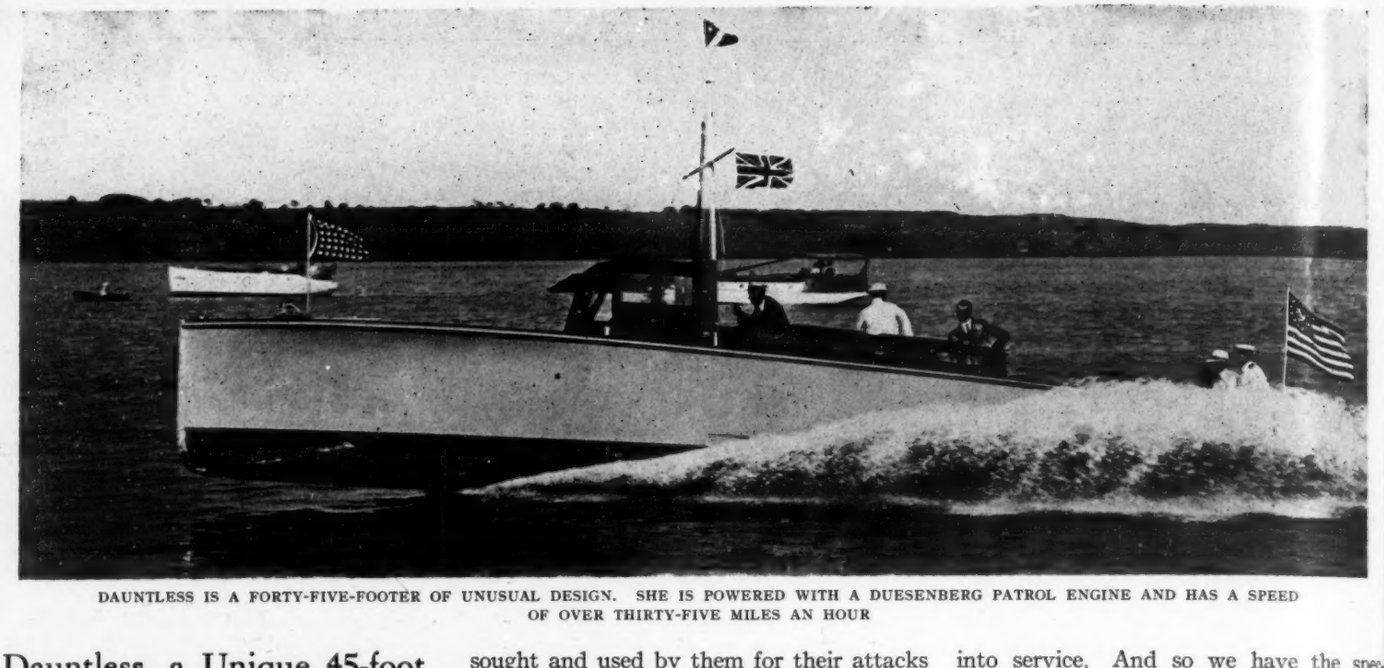
If the lead is armed with tallow, or even soap or bearing grease if tallow is not aboard, it will bring up the character of the bottom if it is soft, and this will help you locate your position; but in a short run where the character does not change much this may not be of any assistance.

Even at best, if you run in a fog for any length of time you are apt to become confused and generally over nervous, believing that you must be going wrong, must be farther ahead than you reckon, or think that you hear sounds or fog signals when you do not. Most men think they have run their distance out before they have, as they do not take into account the times they may stop to listen for a signal, to feel their way past another vessel or when they slow down for a minute or so. They frequently begin listening for their sound signal before they should and then go up in the air when they don't hear it, or begin steering other courses trying to find it, without keeping track of them or without casting the lead. Then it's all off as far as accurate navigation goes and there is nothing to do but to feel your way along with the lead, dead slow, until you can pick up some navigation mark or the shore, or else anchor and wait for clearing weather.

The foregoing relates to boats under power and, except in a general way, not to sailing vessels. The procedure, however, in sailboats that can lay their course is the same, except that speed must be obtained by the taffrail, or patent log, instead of by engine revolutions. As a sailboat usually moves more slowly than a boat with power in it there is greater time to locate marks, to take soundings, etc., in order to determine position.

In a head wind, however, the problem becomes much more difficult, as there are

(Concluded on page 144)



DAUNTLESS IS A FORTY-FIVE-FOOTER OF UNUSUAL DESIGN. SHE IS POWERED WITH A DUESENBERG PATROL ENGINE AND HAS A SPEED OF OVER THIRTY-FIVE MILES AN HOUR

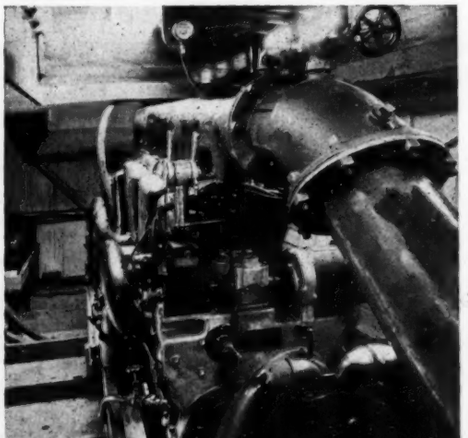
Dauntless, a Unique 45-foot Dispatch Boat

Built for Mr. Roy T. H. Barnes, of Hartford, Conn., Dauntless was launched at Essex, during the early part of July. She was designed by Ernest N. Way of Hartford, and within ten minutes after launching her engine was started and the boat moved out into the river. A preliminary trial spin was made with the launching party on board and a few hours later Dauntless was put over the measured mile and showed an average speed with and against the tide of somewhat over 35 miles an hour. The craft is 45 feet in length, 8 feet 10 inches wide and has a draft of 4 feet. Her deck arrangement is especially interesting. There is a pilot house somewhat forward of amidships from which full control is had of the boat and motor. Abaft this is a mahogany house 15 feet long pierced with a number of window openings; the power plant which is a 350 H. P. 8-cylinder Duesenberg Patrol engine is within this house and is completely equipped with starting and lighting outfit. The main cabin is forward and in addition to a separate toilet room has sleeping accommodations for five persons, entrance being through the pilot house.

A Bermuda Sloop Slips into the Harbor of New York

When the Sir George Somers, an able little auxiliary Bermuda sloop, arrived at New York with a cargo of garden produce consisting mainly of potatoes and onions, which are the staple products of the Bermuda Islands from whence she hails, she repeated in a newer age the voyages of craft of this kind plying between those Islands and the American coast before the war of 1812. In those early days the Bermuda sloops were famous for their sailing qualities and were held in such high esteem by the buccaneers of the Caribbean Sea and adjacent waters that they were eagerly sought and used by them for their attacks against larger commercial vessels.

In those bygone days the port of New York saw these vessels frequently and the men along the water front applied the phrase "salt, cedar and sailors" to the Bermuda Islands as it typified the enterprises of the men who traded in 20-ton sloops built of cedar, manned by slaves, who were real sailors, and hailed mainly from Turks Island, in which place the most



AN EIGHT-CYLINDER DUESENBERG MOTOR IS INSTALLED UNDER THE LOW DECK HOUSE AMIDSHIPS

profitable industry was salt raking. After slavery was abolished in the British colonies the Bermuda sloops were unable to successfully meet the competition of American merchantmen and so they slowly disappeared and were forgotten.

In these critical times, when the volume of the world's commercial tonnage has been cut to a figure that is far too low to adequately bear the commerce of the world, every available craft is being pushed into service. And so we have the spectacle of the 20-ton Bermuda sloop with her tall leg o' mutton sail and manned by men of those Islands making her way past Sandy Hook up the lower bay and through the narrows to the world's greatest port, New York.

And so the Sir George Somers—named for the adventurer who planted the English flag on the Islands of Bermuda—has breasted the mighty Gulf Stream and made the port of New York. She differs only from the original Bermudian sloops of 150 years ago in one respect and that is she has a gasolene motor to supplement the power of her sails.

Testing For Presence of Water in Gasolene

Water in the fuel is an annoyance that is often encountered by the motor boatman and this will make its presence known by causing the motor to skip when all adjustments and connections seem to be in a perfect condition. Water is much heavier than gasolene and has no affinity for it, and, consequently, as it sinks to the bottom of the tank a few drops in a large amount of gasolene will cause trouble by passing out through the needle valve at intermittent intervals and forming an unexplosive mixture.

The presence of the water in the fuel may be detected easily without the use of a hydrometer by drawing some gasolene from the bottom of the tank into a tin or white enameled cup. If water is present, it may be seen in the form of small globules in the bottom of the cup. If the contents of the cup are poured over a flat surface so that the liquid may be allowed to spread, the gasolene will be seen to cover a large surface and evaporate quickly, while the water will seem to remain in the globules unevaporated for some time after the gasolene has disappeared. This latter test will sometimes show the presence of water when none can be discerned in the bottom of the cup before the contents are poured out on the flat surface.

Concerning High and Medium Speed Motors

THE greatest benefit that the sport of motor boating has received from the racing launch and hydroplane has been the rapid development of the high speed gasolene marine motor. It is not long ago since the days of the famous boats Speedway, Hardboiled Egg, Mercedes—U. S. A., Flying Dutchman, Shooting Star, and others. Yachtsmen were much startled in those times by these craft dashing about at a 16 to 18-mile clip. There is an illustration in an issue of YACHTING of less than ten years ago of one of these well known boats racing on the Hudson. The craft's best speed was in the neighborhood of 17½ to 18 miles an hour and the caption under it says: "A wild dash down the Hudson." Think of it! And today boats like Miss Detroit, with not a great deal more power and not so large, hit the high spots at a speed of sixty miles an hour; some claim even faster than that. This surely has been wonderful development.

I know that some yachtsmen look upon high speed boats almost as an abomination and as craft that are quite useless for any practical purpose. They are glad to say they are spectacular to look upon but the pleasurable fleeting sight of one of them as it whirls by in a smother of foam is as momentary as the wish to own it. It has been the speed launch and the hydroplane though that have developed the type of marine motor most in use today, and it is the persistent development of these boats that has from year to year corrected the design and construction of the most useful type of marine motor, and all of us who find pleasure afloat owe the owners, designers and builders both of these boats' hulls and engines a debt of gratitude. A world of money has been expended on these craft and if the performance of some of them were disappointing to the lookers on it was a disaster to the men who conceived the unsuccessful craft.

There is probably no service under the sun so difficult for a gasolene motor to fulfil as service afloat, especially in a light boat driven at high speed with water or dampness everywhere while the craft drives along smashing the tops off every wave with violence sufficient to jar anything loose. Any motor that will run for hours on end under these conditions is a good motor. Ten years ago none of them could do it and today all of them can. Season after season of experience has taught designers where to look for weak spots and so taught them how to make corrections in newer models. Weights have been cut, over-all dimensions have been reduced and the operating efficiency of the machines improved many times over.

I think I do not make a bold statement in saying that the majority of pleasure boats afloat are equipped with motors that revolve at a speed of from 600 to 1,200 revolutions per minute, and I believe the average revolutions of these craft is around 900. A few years ago that would have been unheard of, but today it is the accepted thing. The high speed and medium speed motors take up but little room, and, if properly propellered, even in heavy boats, give as good results as the old fashioned, cumbersome, slow-turning heavy duty machines. This type has a use of its own but I have never believed nor shall I that they are the type suitable for modern fast boats. Seven miles an hour used to be fair speed for a cruiser; now a cruising boat has a speed of from ten to thirteen miles an hour, while the high speed ones slip along at twenty-five.

A few years ago we used to look upon the European motor manufacturers as having the ability to create something that we could not. The Daimler, Napier, Wolseley, Issotta and Panhard motors seemed something apart and quite superior to anything we were able to build, but nowadays the table is turned and there are, at the present day, few better motors built anywhere than those built in America, for they are reliable, economical, both to purchase and to operate, are compact and clean running.

Without reliable high speed motors the express cruiser which has been developed to such a remarkable extent within the past three years would still be a dream of the future. It is this type of boat that has been enticing hundreds of men to get afloat. Nowadays we have become so accustomed to rapid travel that however or wherever we go there is the characteristic American trait of wanting to get there quickly always urging us on. There is a certain exhilaration about traveling on the water at high speed that can be found by no other means than a high speed motor boat. Yes and there is a nerve resting sensation in the swish of the water as it flies by and the end on end purr of the fast turning motor.

Every type of marine engine used today owes something to the high speed motor. The racing engine has taught us the proper way to lubricate all motors. The marine motor is one of the most difficult machines to lubricate as it is usually installed in a boat at an angle of from 4° to 10° from the horizontal and the tendency has always been for the lubricating oil to drain to the after end of the base, a condition which gave an over supply of lubricant to the after cylinders and a scarcity to the forward ones. It was not until the main bearings and connecting rod bearings were oiled from ducts bored through the crank shaft and supplied with lubricant at a pressure that there was any assurance of all the bearings receiving an equal amount of oil. Even then in high speed motors the lubricant soon became heated and thus thinned so that it was not effective, and it was not until the dry sump lubricating system was evolved that even this method was perfectly successful. The high speed motor has been a means of supplying us with much data as to the designing of inlet manifolds and for the correct design of carburetors. These two motor accessories are perhaps more important than any other, and their design perhaps affects the efficiency of the motor more than any other thing. From building high speed motors we have become wondrous wise in the way of eliminating vibration. Light reciprocating parts have been devised that have helped wonderfully toward creating a smoothly running machine. Unless we had developed the high speed motor we should know little of the value of special materials for cylinder castings, for pistons, piston rings, for valves and valve seats, for valve springs, for connecting rods, and for the thousand and one bolts, studs, nuts, manifolds, and water connections that combined create a successful motor. Motors of this kind will give as good service in a heavy auxiliary boat as in the lightest runabout. Within recent years the tendency has been to fit motors of this description with a gear box to reduce the propeller speed so as to make it more efficient for the propulsion of heavy craft. There are many installations of this kind afloat and they give the finest kind of service.

The tendency seems to be ever toward higher turning motors, and this is a tendency that should be nursed. Today automobiles are equipped with motors that revolve at extremely high speeds and as everyone knows present day motor cars are as perfect a means of travel as any that has ever been evolved.

And the power plant of the aeroplane preaches the same story.

The Old Time Porch Habit

If there is a more beautiful scene than the old river, just off the Clubhouse, when the moon is up, the clouds are scurrying past, canoe lights glimmer like fireflies and a ghost of a sail flits by in the gray distance,—But why talk? There isn't anything else quite as entirely soul-satisfying after a long day's work.

This was the substance of a husky chap's remarks the other evening as he sat with a half dozen others, smoking and talking and enjoying the cool night on the Clubhouse porch.

"There ought to be a hundred people here instead of six" said the speaker. "What are they doing anyhow? Here is a cool spot on a hot night, a quiet spot in a noisy city, a bit of delightful privacy in a place of crowds."

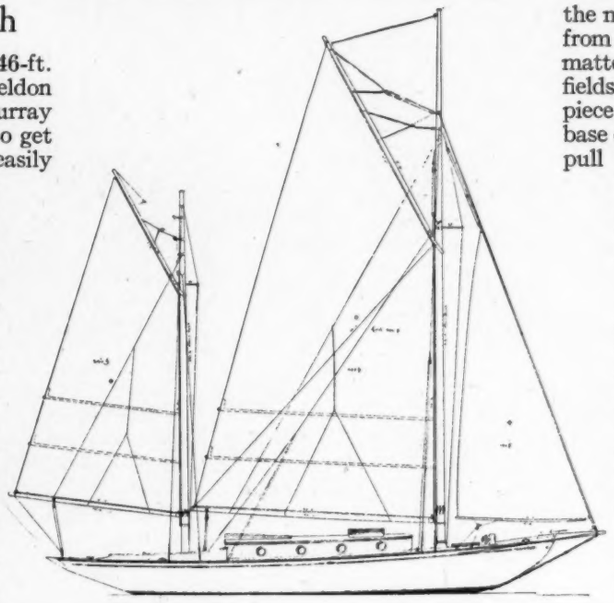
"People do not love the porches as they once did," ventured another. I guess the automobile has gotten most of us into the habit of swift going, rushing breezes and hip-hoorah changes of scene."

Is that the truth of it? Is the automobile speeding the world past the enjoyment it once found in simple pleasures, in rest and calm and easy companionship?

(Continued on page 144)

A 46-foot Auxiliary Ketch

The accompanying plans show a 46-ft. auxiliary ketch, designed for Mr. Sheldon Potter, Jr., of Philadelphia, by J. Murray Watts. The object of the design was to get a small auxiliary that could be easily handled by one man, and yet to have ample accommodations. This craft has a liberal beam of 12 ft. and a moderate draft of 4½ ft. The sail plan is well inboard, and has an area of 855 square feet in the lower sails, not counting the topsails.



The arrangement plan be'ow decks shows a saloon amidships with transom berths on either side, buffet, dresser, and a large locker. There are companion stairs leading to the bridge deck underneath which there is a 2-cylinder, 10 h. p. motor. Abaft the main cabin on the port side is an extra berth for a guest. The galley is forward of the cabin and on the port side, and is fitted with stove, sink and large ice box, while a toilet room with wash basin and toilet is on the starboard side. Forward of these there is room to swing a pipe berth to carry a paid hand if required, though it is the owner's intention to sail the boat single handed.

While this boat is only 28 ft. on the water line, nevertheless, on account of her strong construction and considerable displacement she ought to prove a thorough, sea going little ship and although of shoal draft for a keel boat she still should handle well to windward and slight changes in her design with the addition of a center-board, which could easily be fitted, and the sail plan increased, the craft undoubtedly would prove unusually fast.

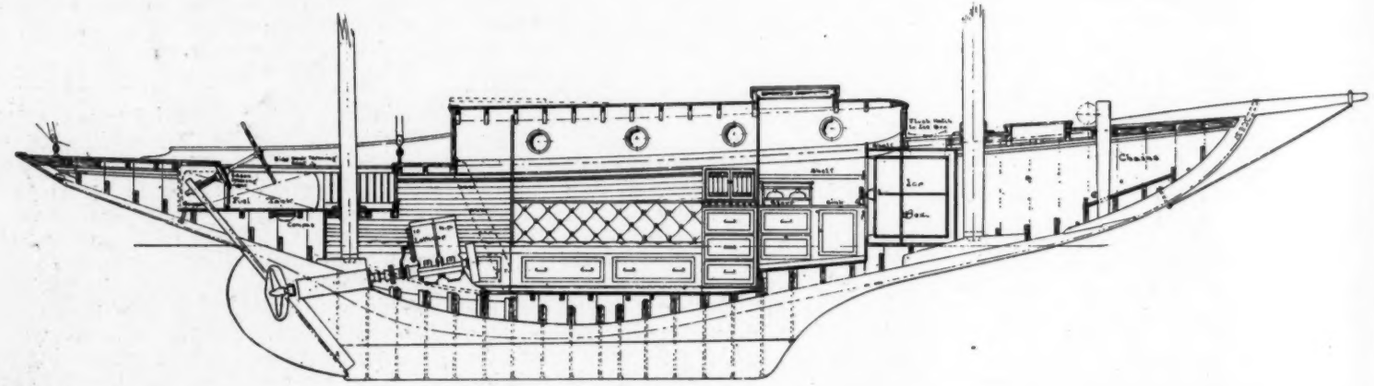
To Determine Magnetism

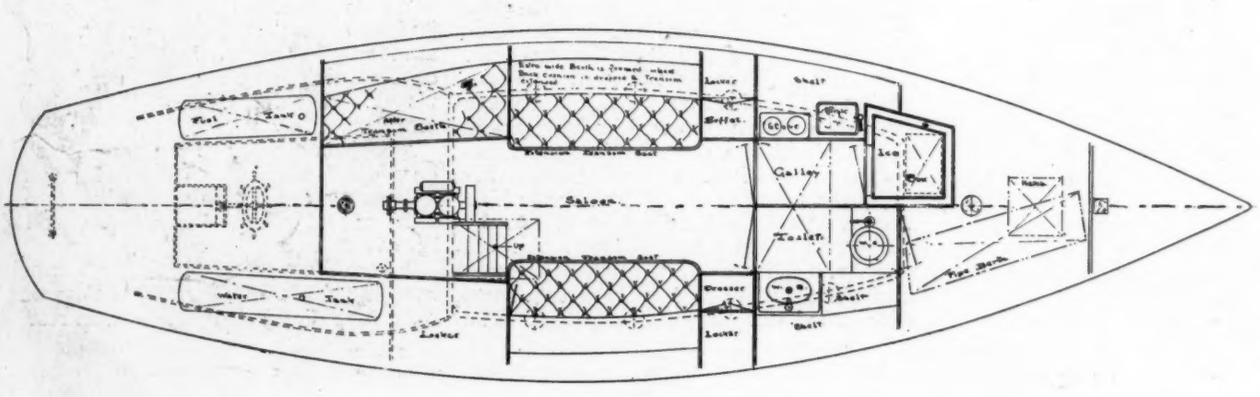
A magneto in which the magnets have become weakened is useless for ignition purposes until the fields can be remagnetized, and as this can only be done at the factory, the machine in its entirety must be removed from the motor. It is a comparatively easy matter to determine whether or not the fields have lost their magnetism by placing a piece of iron or steel within close range of the base or sides of the magneto. An appreciable pull will be exerted by the magnets if they still retain their strength, although it is not to be supposed that the force thus exhibited will be very vigorous from such a small machine.

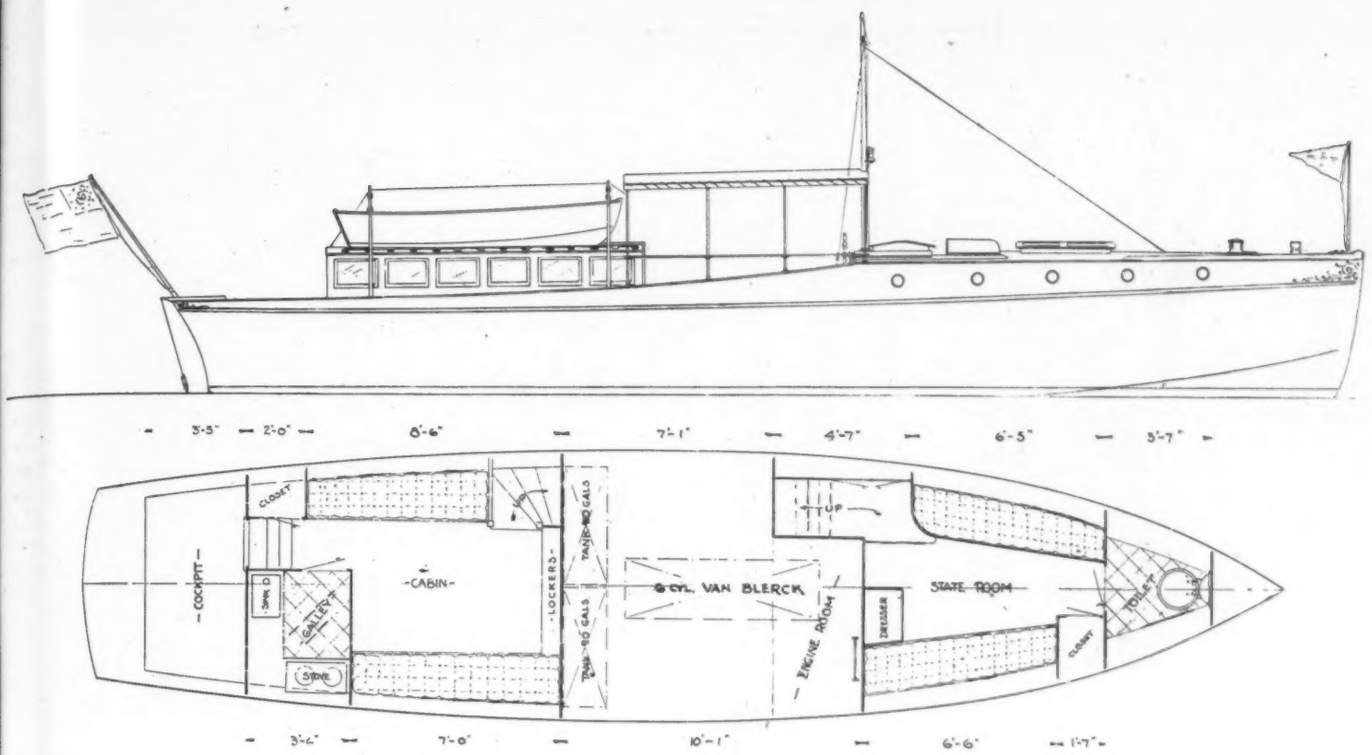
If the magneto has been disconnected from its driving gear for any reason, the amount of magnetism remaining in the fields will be best determined by turning the armature shaft with the hand. A resistance should be offered to the turning at first until a certain point is reached, after which the armature should exhibit a strong tendency to fly forward to a new position, one hundred and eighty degrees beyond its former normal position of rest. This activity of the armature is one of the best guides to the amount of magnetism remaining in the fields.

Compression in Two and Four Stroke Motors

The force of the explosion in a gasolene engine cylinder is not only dependent upon the amount and nature of the inflammable mixture admitted, but upon the force with







which it is compressed, as well. The average compression pressure of a two- or four-cycle engine of the ordinary type is from 60 to 70 pounds per square inch. Inasmuch as this pressure assuming that the rings and valves are tight, is proportional to the displacement of the piston stroke compared with the volume of the clearance space, the amount of compression is constant at all speeds and loads of the motor.

Should it be possible to increase this compression at will, it would be found that, with a warm motor, a pressure in the neighborhood of 100 pounds per square inch would serve to generate sufficient heat to ignite the mixture before the formation of the spark—for it is one of the elementary laws of physics that a gas will become heated when compressed. It is for this reason that the compression pressure of the ordinary automobile motor is kept in the neighborhood of 70 pounds per square inch.

A Forty-Foot V-Bottom Cruiser

An interesting design is shown above of a forty-foot V-Bottom cruiser. The craft has an overall length of 40 ft., a width of 11 feet, 6 in. and draft of 3 ft. 2 in.

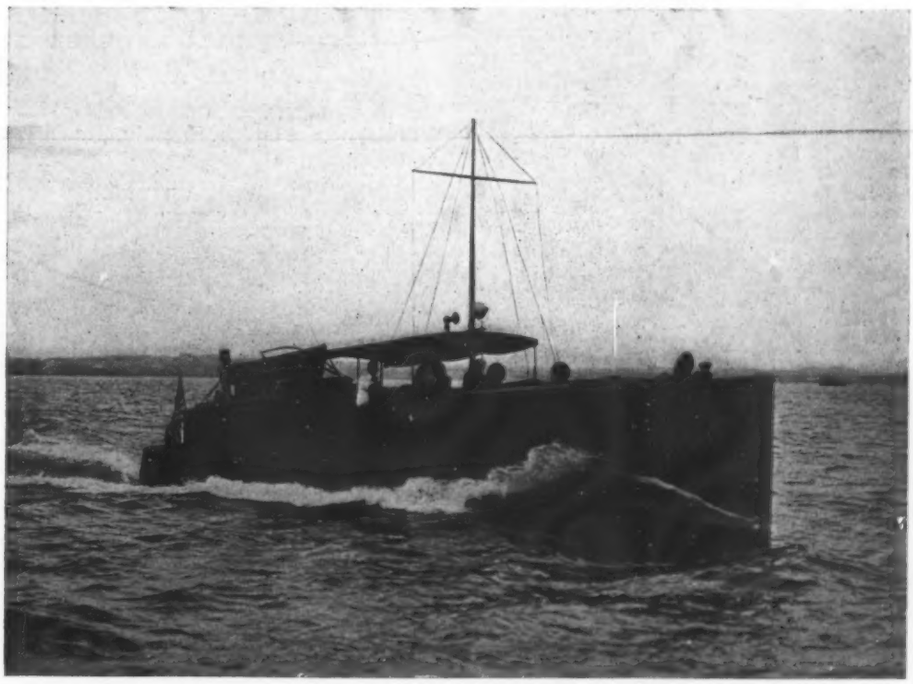
Below decks she is arranged with a stateroom forward, access to which is attained through a hatchway on the port side. This apartment is fitted with two extension berths, a bureau, lockers and clothes closets, while adjoining it forward is a completely equipped toilet room.

The motor is a six-cylinder Van Blerck, installed under the bridge deck, is completely equipped with electrical starter and lighting plant, and although being in an out-of-the-way place, is easily accessible.

The after cabin is especially well appointed, having two wide berths, a clothes locker, book shelves, and a large wardrobe. A gallery is located in the after part of the trunk cabin and is fitted with sink, ice box, etc.

Nelansu, a 50-footer

Mr. John S. Kent's new 50-footer, just off the ways of Reuben Bigelow, master boat builder, of Monument Beach, when stepping along at 20-odd miles an hour curls as pretty a bow wave as any craft that ever hailed from Brockton. Nelansu is 50 ft. long by 9 ft. 9 in. wide, with a draft of 2 ft. 11 in. She was designed by Tams, Lemoine & Crane. Her power plant is a Model F, 8-cylinder, Sterling engine of 200 H. P. which propels the craft at an excellent cruising speed. There are berths for four, and every essential for the pleasure and enjoyment of a party on a cruise.



NELANSU, IS A FIFTY FOOTER FROM DESIGN BY TAMS, LEMOINE & CRANE. SHE HAS A SPEED OF TWENTY MILES AN HOUR AND IS PROPELLED BY A TWO HUNDRED HORSE POWER STERLING MOTOR

Yachting and Yacht Club News

Some New One Design Classes

Down East at the Annisquam Yacht Club there is a fleet of 12 one-design knockabouts all bearing the names of birds. These craft are 19 feet in length and are furnishing a lot of sport at Saturday afternoon club races. There is a class of similar boats, 17-footers—perhaps a dozen of them —all owned by summer residents of Barnstable, which is at the northern entrance of Cape Cod Canal. The latter craft are of a type similar to the Seawanhaka Yacht Club's fish class, and sail under the flag of the Wianno Yacht Club.

The Stratford Shoal Race

At 3.45 P. M., on August 4th, Echo Bay was alive with the bustle preliminary to the start of the 65 mile race to Stratford Shoal Light and return. It had originally been planned to start the craft at 3 o'clock but the wind was so light that the starting time was postponed until half an hour later so as to give the entrants time to work up to the starting line. The Anita and Arvia, owned respectively by Mr. G. P. Granbery and Mr. Theo. S. Clarke, were the first away, these two boats sailing against one another for the chief prize.

In the yawl class were Bonita, Feu Follet and Mediator, all of them Handicap Class boats sailing in one division. The third class was made up of Handicap Class boats and consisted of the six sloops, Arcadian, Ogeemah, Redwing, Kenmuir, Clare and Barbara. Barbara, by the way, is one of the Larchmont interclub boats and was the smallest entrant in the race. The wind was light all afternoon and the craft made slow headway on their 65 mile journey. Anita was the first boat to round the outer mark which she did in broad moonlight after which she broke out balooners and started on a reach for home. The winners in the different classes were Anita, Mediator and Ogeemah. The summary of the race is as follows:

RATING CLASS SLOOPS

Yacht and Owner	Finish Aug. 5 H.M.S.	Elapsed Time H.M.S.
*Anita, G. P. Granbery	2:39:05	10:54:05
Arvia, T. S. Clarke	3:35:25	11:50:25

Corrected Time—Anita, 10:54:05; Arvia, 11:02:43.

YAWL CLASS

*Mediator, J. C. Mitchell	4:07:08	12:22:08
Feu Follet, O. J. Karsch	Did not finish.	
Bonita, S. G. Ellis	Did not finish.	

Corrected Time—Mediator, 12:22:08.

HANDICAP CLASS, SAILING IN ONE DIVISION

Kenmuir, W. P. Krauss	4:15:20	12:30:20
*Ogeemah, A. J. Dealy	4:46:10	13:01:10
Clare, P. L. Pfeiffer	4:55:20	13:10:20
Red Wing, T. I. Grace	4:58:55	13:13:55
Acadian, P. E. Raymond	5:00:30	13:15:30
Barbara, C. Shields	6:38:45	14:53:40

Corrected Time—Ogeemah, 10:31:06; Kenmuir, 10:45:17; Arcadian, 11:37:57; Clare, 11:44:03; Red Wing, 12:06:23; Barbara, 12:53:37.

*Winner in the class.

Nahma Will Race Wasaka II

Next season will see an interesting series of races between Wasaka II, owned by Mr. John J. Martin and Mr. Addison G. Hanan's Nahma; that is, providing war conditions are such that Wasaka II can make the trip from Boston and through the Sound without objection by the Government. Because each owner has great faith in the ability of his boat to be the victor whenever the race comes off, it bids to be a most interesting contest to those yachtsmen who have followed the two boats and their skippers during the past few seasons.

A Large Ketch Launched

Ajax, an auxiliary ketch, is the second largest craft of her rig in American waters. She is 123 ft. overall with a waterline length of 91 ft. Her beam is 23 ft. and she draws 13 ft. 6 ins. of water. She has shown rare speed in adverse winds on recent trials and is especially easy to handle. Mr. Alessandro Fabbri is her owner and she was designed by Thos. F. McManus and built at East Boothbay, Me., where she was recently launched.

On Narragansett Bay

Mr. Irving Watts sailing Gertrude was the winner of the August 18th race on Narragansett Bay. The craft was handled in a praiseworthy manner in the heavy northeast wind which held throughout the race. In finishing in advance of all the competitors, Gertrude wins the third contest of the series. Kel Wayden, owned by Mr. E. Fielding Jones was the second to finish, while Doris, owned by Mr. Cortlandt Parker and Cornelia, owned by Miss Helen Curtis won third and fourth places respectively.

A Race for the Fish Class at Oyster Bay

Although the wind was exceedingly light, Sculpin, owned by Mr. Franklyn Remington, won the third race of the third series for the Fish Class off the Seawanhaka Corinthian Y. C. at Oyster Bay, L. I., on August 18th. The other boats entered were Vanity, owned by Mr. A. Straus, Skate owned by Messrs. Good and Smith, Pompano owned by Mr. W. H. Appleton, and Barracuda owned by Mr. De Forest Hicks.

Atlantic Y. C. Regatta

Compared with the days when big sloops and schooners sailed for the cups offered by the Atlantic Y. C. for their annual regatta the race at Gravesend Bay on Saturday August 18th was a small thing. There were but four yachts entered, which after all were all that could have been expected in these war times. The weather was almost perfect for racing small craft, with a steady full breeze blowing from the north with sufficient strength to bury the lee rails of the craft entered.

The starting line was off Sea Gate and the course led down the channel to Ft. Hamilton thence back to the starting line. On both actual and corrected times, Oriole beat Kathryn, while An-X crossed the finishing line a short distance ahead of X-tra.

A Race for Cruisers on the Delaware River

In the annual championship race for cruisers of the Delaware River Yacht Racing Association, held on July 28th Messrs. Bell and Taylor's Pickaninny flying the colors of the Camden Motor Boat Club, romped home a winner. The nine entrants competed keenly over a 55 nautical mile course, the starting line of which was at the Keystone Yacht Club at Taconey, the course being laid down the Delaware River to a gas buoy off Holyoke thence back to the starting line. The race was sanctioned by the American Power Boat Association and Commodore A. B. Cartledge acted as official time keeper. The craft entered together with their elapsed and corrected times are given in the following summary:

Yacht and Owner	Allowance. H.M.S.	Elapsed Time H.M.S.
Pickaninny, Bell-Taylor	1:00:39	6:52:0
Laureda, A. A. Jordan	0:52:51	6:56:0
Isabelle IV., Ben Hay	1:27:43	7:44:1
Clio, H. L. Jarvis	2:00:26	8:22:5
Berthela, J. W. Broomhead	1:38:35	8:06:1
Helma, William Fredericks	Scratch	6:36:0
Acushla, William O'Donnell	0:12:52	7:35:0
*Eva Dor, Robins & Kirby	0:33:43	Disqu
*Sue M., Charles Morrell	0:15:32	Disqu

*Cut buoy off Bridesburg.

Corrected Time—The Pickaninny, 5:52:04; Laureda 6:03:57; Isabella IV., 6:16:30; Clio, 6:22:24; Berthela, 6:29:3 Helma, 6:30:50; Acushla, 7:22:17.

The Queen of the Bay Cup Race

The Babylon Yacht Club held a race on August 11th for the historic Queen of the Bay Cup. On account of the calling off of the annual cruise of the Yacht Racing Association of Great South Bay the advisability of holding the race for the cup was questioned, but because the spirit of sport seems not amiss to most of our prominent men and that the yachting papers—in fact all the newspapers of the country—generally advocated the holding of all sporting events the Regatta Committee of the Club decided to put the cup up for competition. There were more than thirty craft entered for the contest, but light winds throughout the day made it impossible for all of the yachts and especially those of the eastern end of the Bay to reach the course and the left the western boats only in the race. The summary of the race is as follows:—

Yacht and Owner.	Elapsed Time. H.M.S.	Corrected Time H.M.
Dixie, C. F. Westin	1:36:30	1:36:
Gay B., K. Brandenberg	1:55:03	1:46:
Count, W. T. Hayward, Jr.	1:58:03	1:55:
Rowdie II., Marion Cook	2:10:47	2:03:
Mildred, G. Baldwin	2:11:05	2:03:
Victor, C. A. Artman	2:13:43	2:06:
Miladi, Miss Baruch	2:11:06	2:06:
Edith S., R. S. Haight	2:11:07	2:07:
Boomerang, Louis Smythe	2:10:55	2:07:
Glide, H. Hovey	2:11:46	2:07:
Osprey, T. C. Farrelly	2:12:47	2:10:
Kid, J. W. Lawrence	2:13:08	2:10:

ONE of the six 52-footers, the smallest model "submarine chaser" produced at the Speedway Shops, where several boats embracing 60-70-78-108 and 130-foot designs are now under construction to the orders of private parties for "Patrol Service."

Delivery "Fifty-two" foot cruiser, ten weeks

Delivery "Sixty" foot cruiser, twelve weeks

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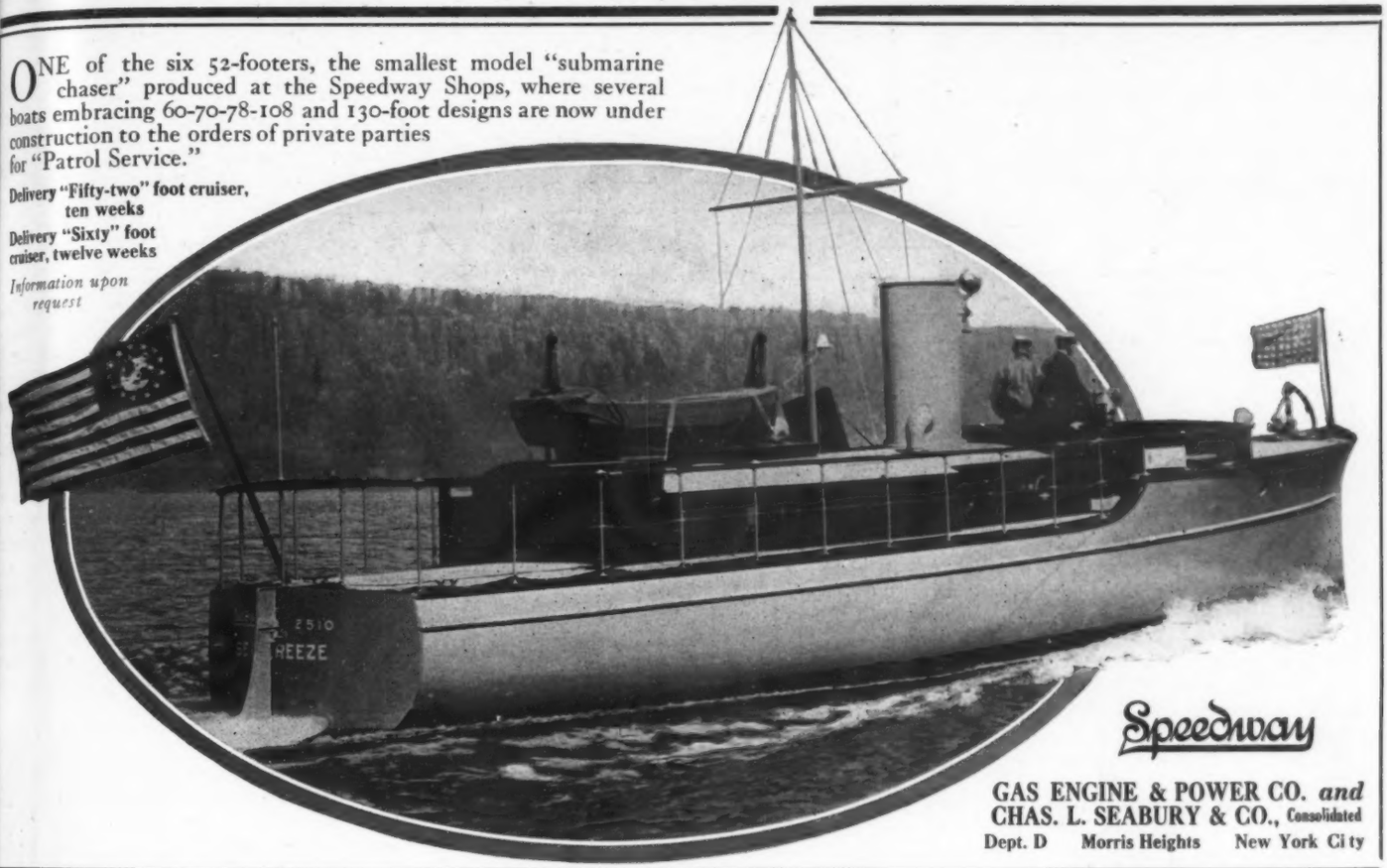

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Of Interest to the Skipper

THE EVER-WARM SAFETY SUIT DOES MORE THAN KEEP ITS WEARER AFLOAT. IT KEEPS HIM WARM AND COMFORTABLE, EVEN IN FREEZING WEATHER

A Real Life Preserver

The Ever-Warm Safety-Suit is an outcome of the sinking of the Titanic in the north Atlantic with its toll of 1500 lives. At the time of this disaster the young inventor, Oscar A. Youngren, then of Sheridan, Wyoming, and now of New York City, saw final confirmation of his conviction that the real life preserver must do two things—while keeping the wearer afloat until rescue arrives, it must also protect the wearer from exposure.

At the time of that voyage, he began to visualize the invention which would provide the necessary protection to actually save human life. It was plain that it must comprise a garment to protect the body, while retaining in an improved form, the sustaining power of the customary life preserver. With these essentials in view he proceeded to work out the details of what he saw was required—a simple, one-piece suit that could be put on quickly in time of panic or sudden warning and that could keep one afloat indefinitely while affording absolute protection from exposure. He was at work on this problem when the Titanic went down.

He read the story of how the wireless had sent out her S. O. S. to be heard by rescue ships hundreds of miles away, whose keys crackled back to her messages of hope, while the giant wounded ship slowly succumbed and went down. Then came the story of how the shipwrecked were adrift and afloat in the lifeboats, on rafts or otherwise, with life preservers or belts, for hours, and of how when picked up it was found that of those who lost their lives a large percentage had died from exposure.

It was a typical case and convincing. The life preserver had failed, and the highest skill of the builders had been unable to produce a ship that could defy all the natural dangers of the sea.

So, after all these years and at a time when the need for it was all but tragic, the Ever-Warm Safety-Suit was conceived, evolved and perfected.

Recently a demonstration of these suits by the International Life Suit Corporation, 11 Broadway, was given in New York Harbor at the Narrows, for the benefit of 200 invited guests; 17 persons—men, women and children—swam and drifted with a strong, swift tide in the path of liners, relief ships and all manner of craft. The party was taken to the scene of the test in the Steamship Tourist, and the demonstration served again to emphasize the success which has followed the Ever-Warm Safety-Suit everywhere.

5 K. W. Automatic Electric Plant

To meet a constantly increasing demand for a larger size automatic electric lighting plant, The Matthews Engineering Company, Sandusky, Ohio, announces the addition of a 5 K. W. set to their present 1918 1 and 2 K. W. models.

This new unit performs all the functions of the smaller plants, starting and stopping automatically. It furnishes current for light and power, requiring no attention beyond replenishing the supply of fuel and oil.

The engine is of the 4-cylinder, 4-cycle type and develops 20 horse power, giving it a reserve capacity for nearly 100% overload. This, together with the fact that the set runs at the slow speed of 900 R. P. M. insures smooth, easy running, and long life.

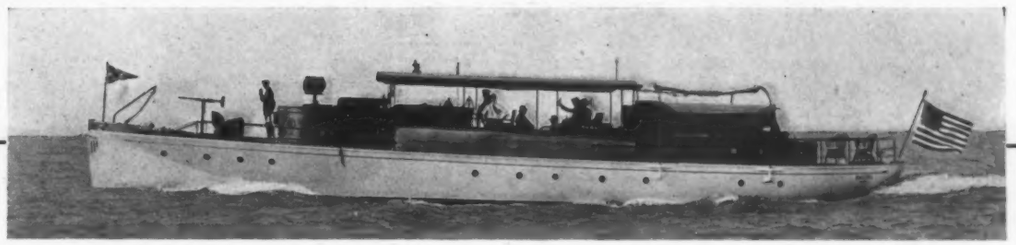
The entire power plant is mounted on a substantial base. The engine is water cooled, the pump forcing water from a tank of large capacity through the cylinder jackets. This heated water is then returned to the water tank after being cooled by passing through an automobile type radiator through which a fan forces a stream of air. The vacuum feed gasolene system provides a constant supply of fuel to the engine from the main gasolene tank, which may be installed underground outside the building. Thus there are never more than a few pints of gasolene inside the building and the insurance requirements are complied with.

The electrical apparatus is mounted on a neatly arranged switchboard and may be installed wherever convenient near the plant. It provides for the full automatic operation of the plant, keeping the batteries charged at all times.

Yachts Change Ownership

Since war was declared quite a number of valuable yachts have changed hands the new owners purchasing them for the sole purpose of turning these craft over to the Government, without cost, for patrol service which is substantial evidence of the generosity of those associated with the sport of yachting. The following transactions have recently been effected by the firm of Cox and Stevens of New York:

138-ft. cruising power yacht, Mona, sold for Mr. Chauncey B. Borland of Chicago to Mr. Henry R. Rea, and tendered to the Fourth Naval District at Philadelphia. 118-ft. yacht, Alacrity, sold for Mr. William A. Bradford of New York to Mr. J. H. Blodgett, and placed in service in the First Naval District with headquarters at Boston. 96-ft. power yacht, Lady Mary, sold for Mr. F. D. M. Strachan of Brunswick, Ga., to Mr. B. E. Niese and Mr. C. S. Smith, Jr., who have enrolled with the vessel in the Second Naval District at Newport. 90-ft. power yacht, Desire, sold for Mr. W. H. Brouse to Mr. Clifford Abeles of New York.



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YOU can't avoid water-stains or grease-marks aboard boat, but you *can* get upholstery that is water, dirt and grease-proof—upholstery that can be instantly wiped spick and span with a damp cloth.

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is ideal material for boat upholstery. Its leather-like surface has the luxurious appearance and softness of fine leather. It is extremely durable and will wear longer, give greater service and look better in the long run than any upholstery material you can choose.

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Figure 1404

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who has enrolled the vessel in the Fifth Naval District at Norfolk. 80-ft. power yacht, Tamarack, sold for Mr. F. L. Jenckes of Providence, R. I. to Mr. E. L. Beard, Jr., and others, who have turned the yacht over to the Third Naval District at New York. 81-ft yacht, Fli Hawk, sold for Mr. A. D. Tappan of New York to Mr. W. V. Couchman and Mr. J. B. Moulton of Chicago, who have enrolled the boat with their services in the Fifth Naval District. 75-ft. cruiser, Sayonara II, sold for Mr. Thomas A. Howell of New York to Mr. Charles Blum, who has tendered her to the First Naval District. 71-ft. power yacht, Hoqua, sold for Mr. T. Dwight Partridge of New York to Mr. Russell Hill of Chicago, and delivered to the Third Naval District. 68-ft. cruiser, Ocoee, sold for Mr. R. P. Stevens of Youngstown, Ohio, to Messrs. H. W. and R. G. Blumenthal, who have enrolled the craft with their services in the Third Naval District. 60-ft. power boat, Kingfisher, sold for Mr. J. M. Goetchius of New York to Mr. Frank Matthiessen of Chicago, and tendered to the Second Naval District. 60-ft. power boat, Celeritas, sold for Mr. David M. Goodrich of New York to Mr. Robert Meyer, who has enrolled in the Third Naval District. 55-ft. power boat, Glenhallie, sold for Mr. James F. Fisher of New York to Mr. H. Gallatin Pell, and enrolled in the Second Naval District with his services.

Gray Motor Employees Go Picnicking

The gray weather dealt the Gray Motor Benefit Association a raw deal on June 23rd, the day of its annual picnic, but it did not spoil the fun of the employees of the Gray Motor Company, of Detroit, on this gala occasion. In spite of the presence of much rain and the absence of R. B. Burnham, Advertising Manager, who was down East on his annual conference with salt water, the picnic was a great success.

Five hundred Gray Motor Company employees, their wives, children, sisters, brothers, sweethearts, etc., "rang in" at the steamer that morning, and after a three hours sail landed at Tashmoo Park, a most attractive spot for picnics and good times. The base ball players were soon warming up and the card players reluctantly left their tables to join the other fans in surveying and directing the game between the office and the factory. The rain obligingly paused long enough to permit this event, which resulted as it had on two previous occasions in the last five years, in a tie. The much mooted question of superiority was subsequently definitely determined beyond question when a final game was played off on a Belle Isle diamond in a sea of mud. This score was at last unanimously declared and admitted to be 12 to 2 in favor of the office team.

Baseball was not the only sport indulged in, however, for there were many contests and races for girls and boys and their elders as well. Sizable cash prizes proved tempting baits for all these events. The climax of enthusiasm was reached in the ladies' ball throwing contest, when one lady contestant's ball landed squarely and somewhat severely upon the head of President O. J. Mulford, who was standing at a point situated at right angles from the objective mark.

Just before the homeward boat was boarded a group picture of the entire gathering was taken. The personnel of the congregation coupled with the photographer's skill combined to make this one of the most perfect groupings ever seen in Michigan.

In the gathering dusk the steamer glided back to Detroit with everybody happy. The Gray Motor Company employees are looking forward to getting settled in their new home which the company is now building and which will double their present capacity.

Leather Substitutes

Investigations prove that high grade leather substitutes are taking the place of leather in many instances. Only recently the Government adopted fabrikoid as its standard for ship upholstery and the same product has been used in the binding of government books for some time.

An idea of how fabrikoid is made allows a real estimate of its strength and quality.

The base of fabrikoid is a specially woven fabric. This fabric is of cotton and so designed as to the number and size of the threads in the warp and woof that the finished material will have at least twice the tensile strength of split leather.

The first step is the inspection of this cotton cloth.

After inspecting the cloth, called grey goods, it passes into another room where it is run through the dye vats. The best dyes obtainable are used.

The fabric next goes to the drying room where it is run over revolving dry cans properly heated for the purpose. When thoroughly dried it is ready for the special processes by which is obtained the soft leather-like feel of fabrikoid. Then comes the coating process, conducted in several separate buildings devoted to the necessary operations.

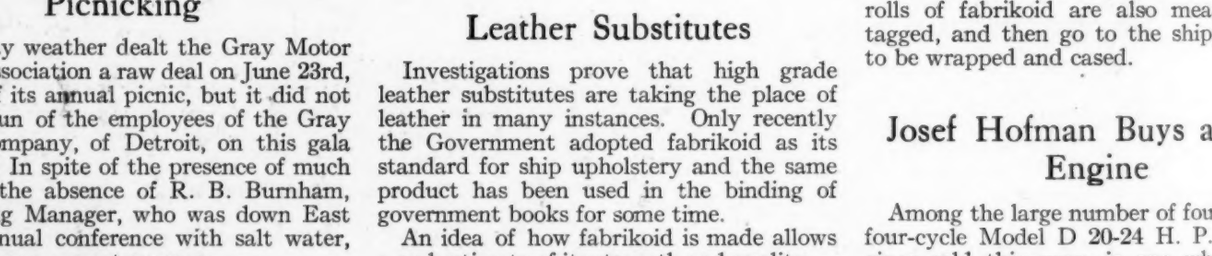
From the coating machines the goods now go to the unembossed stock room where they are given a thorough inspection to eliminate any rolls that are not perfect, the perfect goods passing into the embossing room. Embossing is an important process with both leather and leather substitutes. Some idea of the importance of this process can be gathered from the fact that fabrikoid is furnished in about sixty different grains, some conventional, but the majority being exact reproductions of the natural hide grains of various animals.

After passing through the embossing machines fabrikoid, excepting that which appears in the Moorish or Hand Spanish effects, is virtually finished. These Moorish, two-tone effects go through a special hand treatment in a separate building, where experts apply a series of pigments, washes and solvents to obtain the desired results.

It finally goes to the inspection room. Here all finished material is inspected by daylight, although the other processes are in operation throughout the whole twenty-four hours. In the inspection room the rolls of fabrikoid are also measured and tagged, and then go to the shipping room to be wrapped and cased.

Josef Hofman Buys a Gray Engine

Among the large number of four-cylinder, four-cycle Model D 20-24 H. P. Gray engines sold this year, is one which is the property of Mr. Josef Hofman, the famous pianist. Mr. Hofman has had his engine placed in a boat designed for him by Hollis Burgess, the well-known naval architect at Boston, Mass. The famous musician plans to use the outfit at his summer home in Maine. The sale of the engine was consummated by Walter H. Moreton, of 214 State Street, Boston, Mass., the New England distributor for Gray motors.



FIVE HUNDRED GRAY MOTOR EMPLOYEES WITH THEIR FAMILIES "RANG IN" FOR THEIR ANNUAL PICNIC HELD RECENTLY

We Must Look to Air-craft to Strafe the German Menace

(*Continued from page 126*)

sub-sea terrors in active service, and they are—for the devilishness of the trade they ply—wonder craft. They are good for long voyages as demonstrated by the visit of the U 54 to Newport and the trips of the sub-sea liner Deutschland.

There are lively reports that the much advertised and standardized American built submarine "swatters" are not the deadly "sub" killers that the British Admiralty had hoped they might be; and, even here, where we build these boats, our Navy Department is losing interest in them, and word comes down that hereafter America will concentrate on able sea-going steam destroyers.

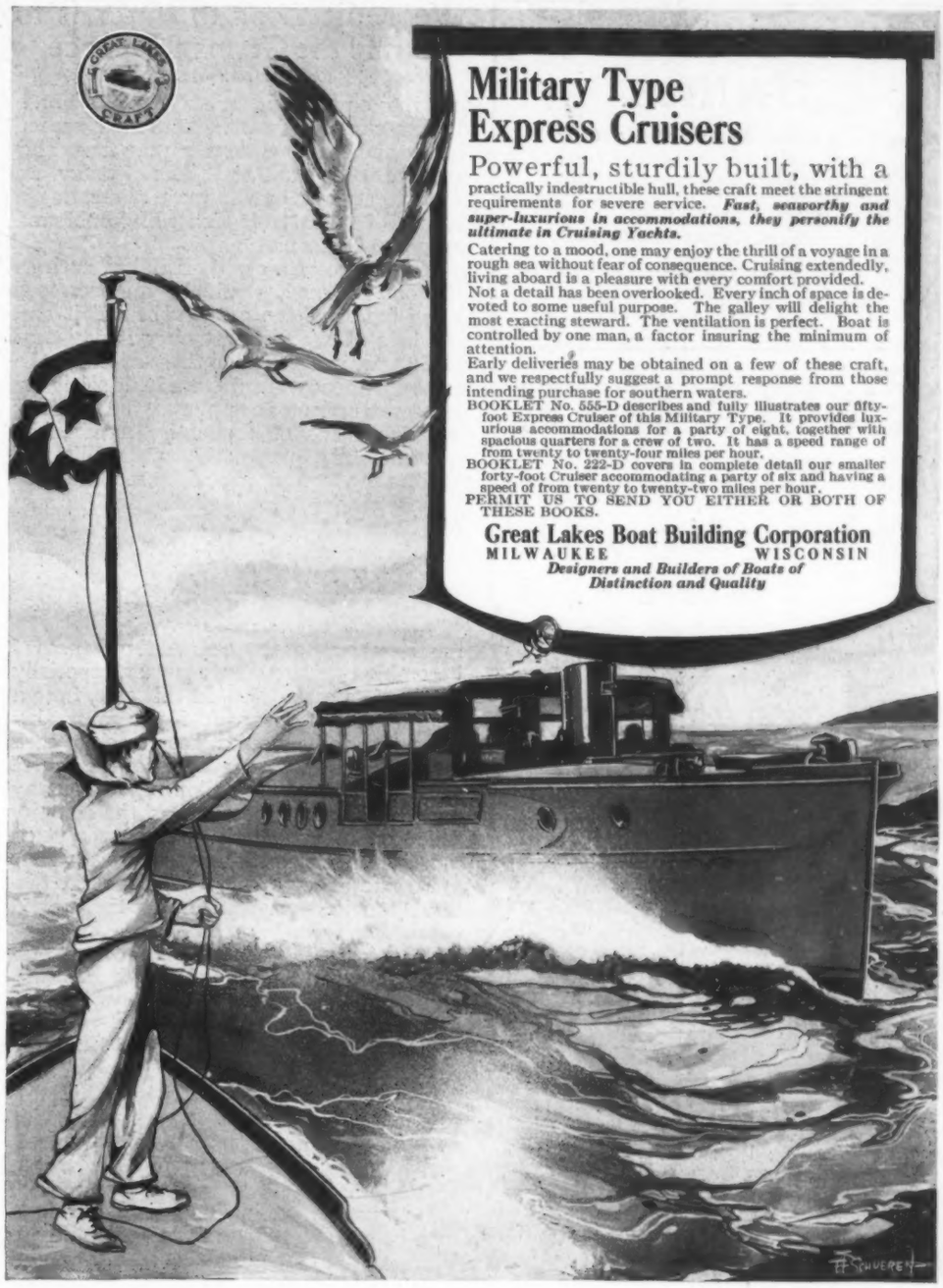
Motor propelled craft have certain vital uses for which they are indispensable but they are not the implement that is to strafe Von Tirpitz's pirate fleet. The well armed commercial vessel has a potent value of its own, although in a brush with the submarine it is fighting on the losing side for the submarine may hit yet remain unseen. Undoubtedly nets have accounted for a large number of the submarines captured and destroyed, but unless the nets are of sufficient length and depth to preclude any possibility of a submarine leaving or returning to its base they are not a sure means of destroying the pest. German submarine commanders are wary men. They know the ways of their wonderful craft, the habits of their enemies and the wily traps set on the high seas for them.

A submarine when deeply submerged is out of sight and sound and there is no way to detect its position. When it is close enough to the water's surface, that is, somewhat under thirty-five or forty feet, it may be seen from air craft; and, for this reason, if for no other, the aeroplane, or in this case, the hydroaeroplane or flying boat, seems to be the big white hope of the Allies for spying out the lurking raiders.

One or two thousand flying boats, though, are not equal to this stupendous task; 30,000 are not too many. Every one seems to be agreed that the place to best these under sea craft is not the high broad seas, but rather the harbors where they rendezvous and from whence they provision and arm to take the sea. The roadsteads, the river mouths, the strategic Kiel Canal, should be overwhelmed with a fleet of not 3,000 flying boats and hydroaeroplanes, but 30,000.

There is no reason in God's world why the enormous manufacturing resources of the United States cannot create this fleet and train the men to operate it, not perhaps in the twinkling of an eye, but, beginning now, in time to have it aloft within a date early enough to wipe out the German menace. So also should it be on land. Overwhelming numbers of air craft under the command of the geniuses who today are

(*Continued on page 144*)



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Early deliveries may be obtained on a few of these craft, and we respectfully suggest a prompt response from those intending purchase for southern waters.

BOOKLET No. 555-D describes and fully illustrates our fifty-foot Express Cruiser of this Military Type. It provides luxurious accommodations for a party of eight, together with spacious quarters for a crew of two. It has a speed range of from twenty to twenty-four miles per hour.

BOOKLET No. 222-D covers in complete detail our smaller forty-foot Cruiser accommodating a party of six and having a speed of from twenty to twenty-two miles per hour.

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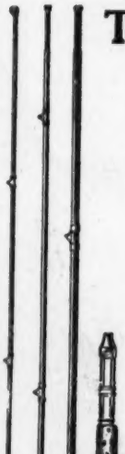

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This is the famous V-D. steel fishing rod. It is 8 feet in length, has three joints and a butt. Enameled in black. Mounted with German Silver three ring offset. Put up in partitioned cloth bag.

Do not delay sending in your order as our stock is limited, and we may be obliged to disappoint you.

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Send me prepaid the V-D steel fishing rod and twelve months of ALL OUTDOORS. I enclose $1.50 with the understanding if everything is not satisfactory I may return the rod and my money will be refunded.

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We Must Look to Air-craft to Strafe the German Menace

(Continued from page 143)

carrying on the war for the Allies' side are the necessary element needed and needed badly and, as conditions a year from now promise to be similar to those of today, we should get busy on the work of creating a swarm of flying craft that will dumbfound even the Germans.

A program of air craft building, such as the one outlined, would be an enormous thing but with the country behind it and the help of the foremost aircraft designers of Europe, in addition to those at home, the factories already in existence built solely for the construction of aeroplanes, the far flung machine shops of the entire nation, the wood working plants, the automobile factories, the accessory manufacturers, we have the nucleus for a fine beginning and the men for the work.

Let's hope we go to it!

Navigating in Fog

(Continued from page 129)

numerous courses to steer and the chances of becoming confused much greater, especially if there is a cross tide. In this case, from a known point of departure, if you cannot lay the course to be steered, keep track of each leg of your beat to windward, of the course actually made good (allowing for leeway and tide as one correction), of the distance sailed on it, and mark these on the chart lightly in pencil, with a note as to the time you came about each tack. Then the distance run in a straight line on the desired course can be measured off on the chart fairly accurately or you can make a traverse table if you have a copy of Bowditch aboard and get it still more accurately. Every sailing man should know how to make a traverse table without being told here.

But at best, beating to windward in a fog, except in open waters, is poor business and dangerous, and if it gets very thick with a head wind in narrow waters or on a rocky coast, discretion would advise anchoring.

I remember sailing one time during a race in a 40-foot sloop from Pt. Judith to Vineyard Lightship in a thick fog, at night, with a shifting head wind that made each course at a different angle. We got a good departure from Jude whistling buoy about 6.30 P. M. and by plotting each course sailed and keeping track of our position we made the lightship after seven hours of sailing (the distance was about 30 miles) dead ahead, and did not see her light until we were so near we were right under her. When we first heard her fog siren there were two steamers and a sailing vessel also making for the turn, and after ten nervous minutes we were so on edge it was hard to tell fog siren from steam whistle or fog horn. However, we made the lightship all right—and went on and won the race.

When first hearing another vessel's fog whistle in thick weather, if it is close by or ahead, stop at once and proceed cautiously until you are by. If it is still some distance off, listen until you have heard two or three blasts of her whistle and try to locate it and learn in which direction she is going. If the sounds get louder, then stop and stand by to go astern or to either side as the situation develops. The pilot rules forbid the blowing of passing signals in a fog.

Whatever happens, try to keep cool and collected and try to keep in your head a mental picture of just where you are at all times. This will come easier as you have practice and you will soon find yourself forgetting the turns you have made and the distance come, instead reasoning out the fact that: "Now I'm six miles S. S. W. from New Haven Light," "Now, two miles," "Now, I ought to be hearing the fog signal," "Now I've run my distance down and ought to be there. It's time to stop."

In spite of the anxiety and the danger, there is a sort of fascination in working out the problem of finding your way around in a fog. It is like a game the winning of which brings great satisfaction—only most of us do not want to play it too often.

The Old-Time Porch Habit

(Continued from page 131)

Don't let it carry you past the Clubhouse porch. You will be missing something you need.

Man made automobiles, and cities, and paved roadways. But God made the old river, and the moon and stars and the night breeze. The Clubhouse porch gives you a reserved seat for an inspection of His handiwork.

Come out this evening and rest your eyes, your body and your soul.

[From the *M. R. Y. C. Bulletin.*]

Concrete Ships

(Continued from page 119)

Ship yards in which steel vessels may be built are inadequate to turn out the number of craft necessary and we have not sufficient seasoned timber to build a wooden fleet large enough to offset the enormous loss of ships during the past year. Conditions such as these make it necessary for us to look about for some other ship building material but in the meantime every effort must be made to complete both wooden and steel vessels to the extreme capacity of the ship yards now in existence and in those under construction. These though working at their greatest capacity are not sufficient to supply the tonnage needed.

For a number of years engineers have been experimenting with concrete as a material for ship and boat construction and there are many reasons why concrete is a logical material for this use. Perhaps the most important of these is that vessels of this character may be built with the help of very little skilled labor, concrete vessels can be constructed very rapidly and at a reasonable

(Continued on page 145)

cost, they cannot burn, while their cost of maintenance is small and there is no reason why ships cannot be built of reinforced concrete, for it is useful and satisfactory in every form of building construction and is a known quantity.

Out in San Francisco a concrete ship is being built that has a length of 330 ft., a breadth of 44 ft., and when afloat she will draw about 18 ft. of water, and have a capacity of 4,500 tons. In 1898 a concrete schooner was built and used for a number of years in the Atlantic Coast Trade, concrete lighters have been used for carrying coal on Chesapeake Bay for the last six years and have given splendid satisfaction, even away back in 1849 a reinforced concrete small boat was built in France, and is still in service after a period of sixty-eight years, while in the Welland Canal concrete barges have been in service continuously since 1910, and in the Panama Canal craft of the same type have been, and are still, in use.

Examples such as these before us undoubtedly give proof of the usefulness of concrete as a boat building material of real value, and the possibilities of building larger craft than these suitable for coastwise and over sea trade should be investigated.

Perhaps one of the reasons why vessels have not been built of this material is that the naval architects have had no opportunity to learn the value of concrete. They know all about wood and steel and bronze and iron, but concrete is classified as masonry and seems more of the land than of the sea. On the other hand civil engineers who know the value and possibilities of concrete construction are without knowledge of ship building. Herein lies the reason for its non-development as a shipbuilding material.

A medium must be used for ship construction that is stiff enough to prevent buckling between ribs and longitudinals. Concrete is a material of this kind and it has the unusual advantage of being easily shaped to form the lines to which the ship should be formed, and it also has the advantage of being finished perfectly smooth which obviously will reduce skin friction and retard sea growths, and using it all rivets are done away with and speedy construction made possible. It is not necessary to caulk the concrete ship, which is an item of large moment, and there is no possible way for a vessel of this kind to leak, as the hull is one continuous mass. In building concrete vessels it is feasible to construct the lower portion of the hull only, so as to permit it to float, completing the topsides while it is in the water. This in a way doubles the capacity of the plant as a second craft may be started in the dry dock or on the ways while the first one is being completed afloat.

New problems are bound to arise in building ships of concrete which without question will be solved and it but remains for far sighted naval architects, ship builders and engineers to apply the knowledge that has been gained with concrete construction in other fields to make stone ships practicable.

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This advance is due to the enormous increase in the cost of material which enters into the manufacture of the magazine.

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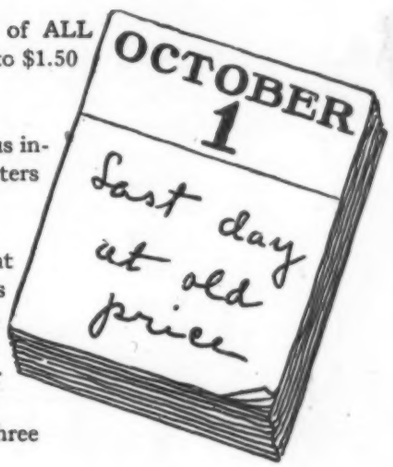

If your subscription has expired or if it expires six months or a year from now you can take advantage of this saving just the same. We will extend your subscription from the date of expiration.

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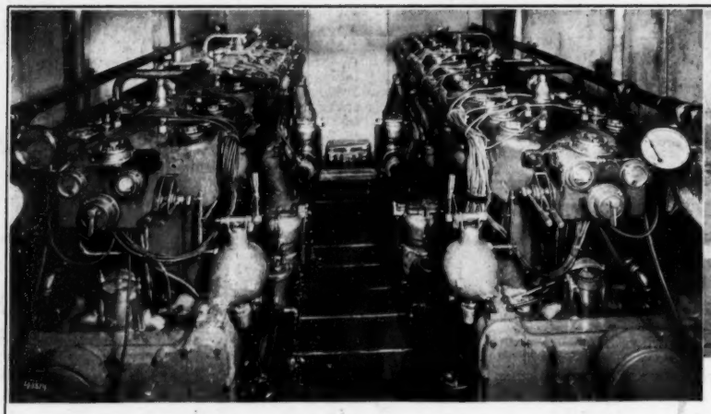

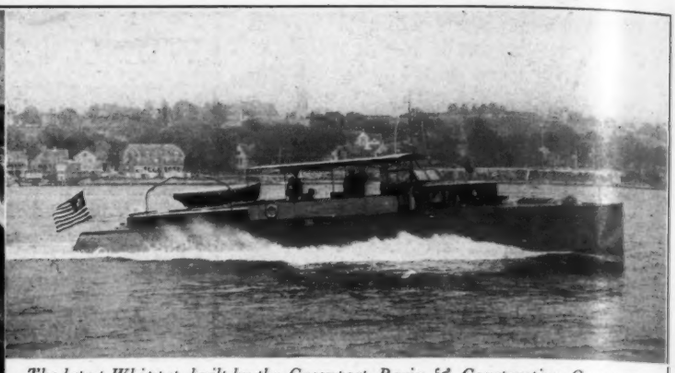

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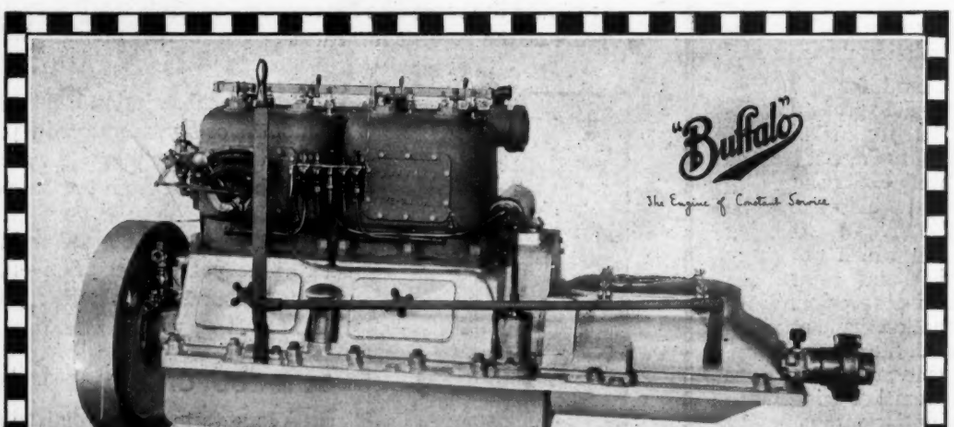

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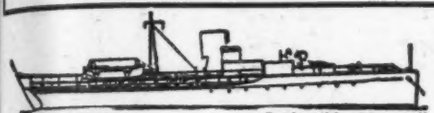

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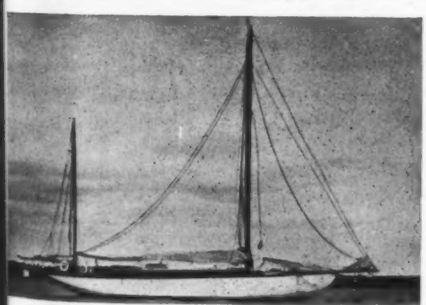

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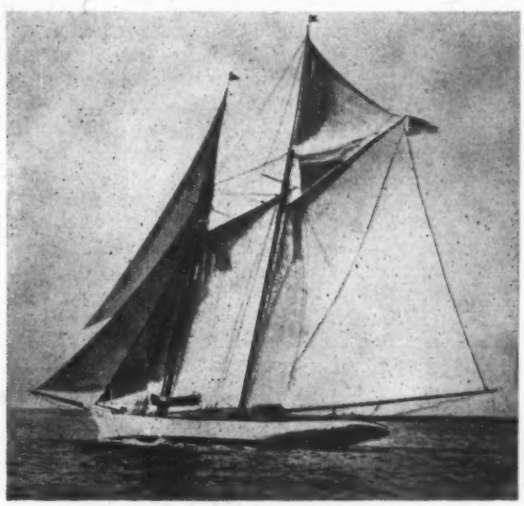

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